Correct as at 17th July 2026. It may be superseded at any time.

Extract taken from: In-service certification (WoF and CoF) > Heavy vehicles

Heavy vehicles

1 Vehicle identification

- See also **Introduction 3-2: Identifying the vehicle class**

1-1 VIN and chassis number

Important Ensure that the VIN or chassis number is recorded in full on the checksheet.

This number must be:

- the VIN if fitted – not the chassis number (locally allocated VIN)
- the stamped VIN on the VIN plate – not the VIN etched on the glazing.

Also refer to **Table 1-1-1. Location of New Zealand VIN numbers, Figure 1-1-1. Structure of a VIN issued by the NZ Transport Agency and Figure 1-1-2. Structure of a VIN issued by the vehicle manufacturer**.

Reasons for rejection

Mandatory requirements

1. A vehicle first registered or re-registered in New Zealand before 1 April 1994 does not have a VIN or chassis number (Note 1) (Note 3).

2. A vehicle first registered or re-registered in New Zealand from 1 April 1994 does not have a VIN number (Note 1) (Note 3).

3. A VIN number is not valid (Note 1) (Note 2).

Condition

4. A VIN or chassis number has been (Note 1) (Note 3):

a) removed, or

b) erased, or

c) altered, or

d) defaced, or

e) obscured, or

f) destroyed, or

g) obliterated, or

h) affixed unlawfully or by unauthorised persons.

Note 1

The vehicle inspector must notify NZTA using the *Vehicle report* form if there is reason to believe that the VIN or chassis number has been tampered with in any way.

Vehicle report form

The vehicle inspector must not issue a WoF/CoF/permit until approved by NZTA. Approval will usually include the issue or re-issue of a new VIN plate.

The vehicle inspector must not issue a WoF/CoF/permit if there is reason to believe that the VIN or chassis number has been tampered with in any way.

Refer the vehicle to a VIN issuing agent (**VTNZ**, **VINZ**, **NZAA**, **Drivesure**, **CVC**, **Autochecks**). They will inspect the vehicle and seek approval from NZTA to issue or re-issue a VIN plate. Once the vehicle has been approved the vehicle may continue through the inspection process.

Note 2

A valid VIN is a unique number that has been assigned to the vehicle in the vehicle's country of origin or by a person appointed by the NZTA. It consists of 17 characters that never contain the letters I, O or Q, and that is capable of being decoded to provide identifying information about the vehicle.

Note 3

If the vehicle is failed because the VIN/chassis is missing or unreadable, then 'not found' must be recorded in place of the VIN number on the check sheet.

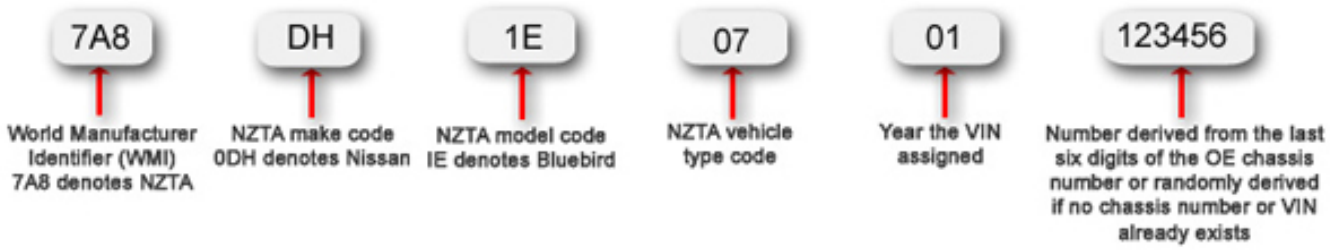
Table 1-1-1. Location of New Zealand VIN numbers

Vehicle	Permitted VIN locations
Vehicles that are not forward controlled (passenger cars and off-road passenger vehicles)	• In the engine compartment on the right-hand side of the firewall • In the engine compartment on the right-hand side adjacent to the front suspension mounting point • In a location inside the engine compartment approved by NZTA for a specified vehicle or vehicle model • On the firewall or inner guards so it is visible from the front of the vehicle.
Forward-controlled vehicles (passenger vans and off-road vehicles)	• In the passenger compartment, on the top of the right-hand side wheel arch adjacent to the seat cushion • In the passenger compartment, on the inner panel of the right-hand A-pillar, adjacent to where the floor meets the A-pillar • In the passenger compartment on the B-pillar.
Goods vehicles and light omnibuses	Vehicle with a separate chassis: • On the outside of the chassis adjacent to the right front wheel arch, Vehicle without a separate chassis: • As specified for forward-controlled vehicles.

If the vehicle is unfamiliar, and the VIN or chassis number cannot be located, the vehicle inspector should contact the manufacturer's agent or the local VIN issuing agent (**VTNZ**, **VINZ**, **NZAA**, **Drivesure**, **CVC**, **i4Checkpoint**).

Figure 1-1-1. Structure of a VIN issued by the NZ Transport Agency

Pre-29 November 2009



Post-29 November 2009

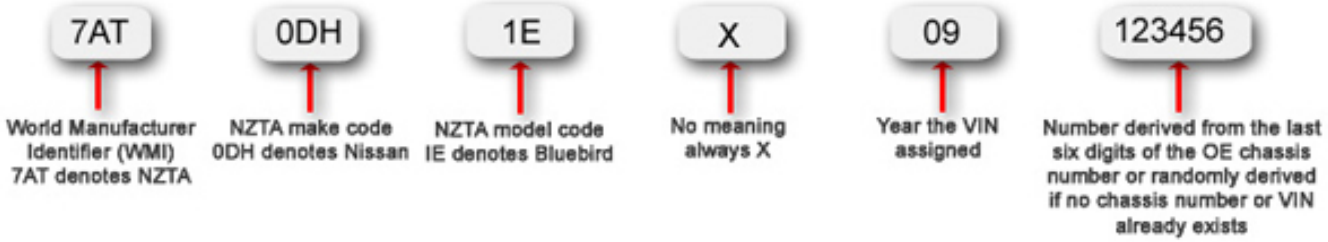
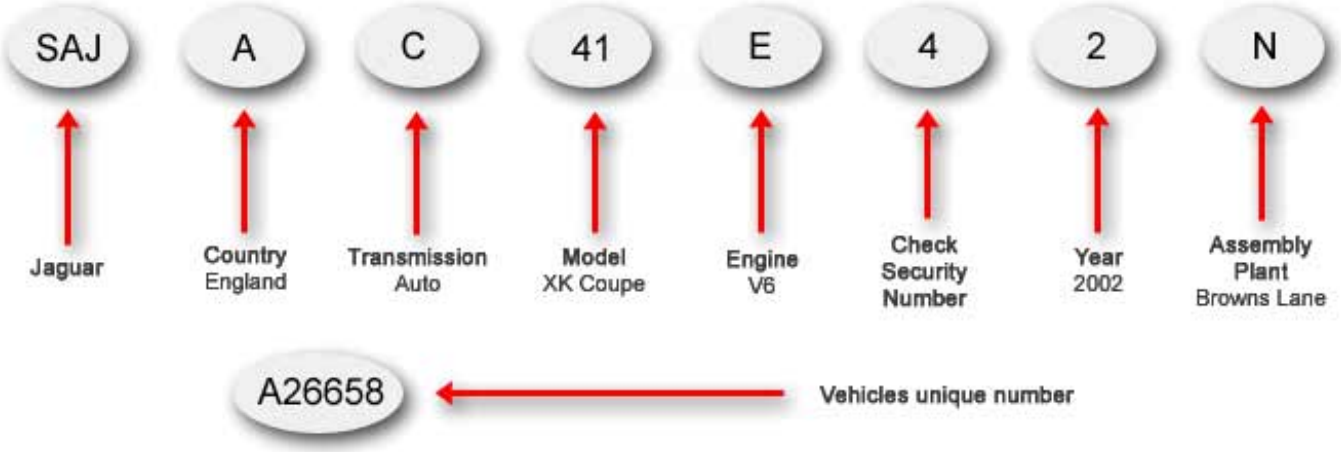
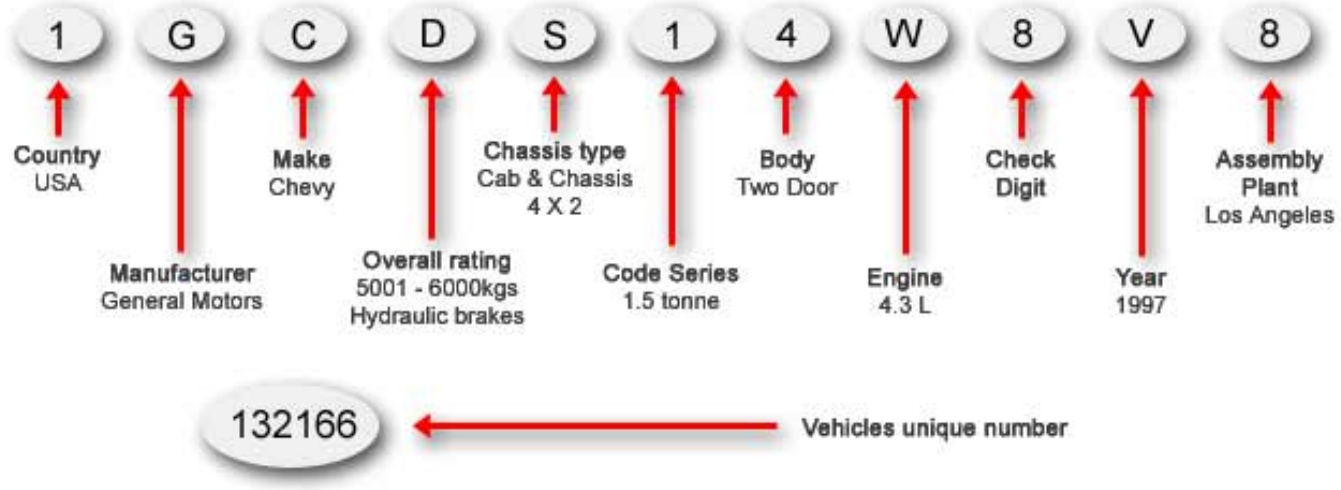


Figure 1-1-2. Structure of a VIN issued by the vehicle manufacturer

Car



Truck



Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Standards Compliance 2002.

Mandatory requirements

1. A vehicle first registered or re-registered in New Zealand before 1 April 1994 must have a chassis number or VIN.

2. A vehicle first registered or re-registered in New Zealand from 1 April 1994 must have a VIN.

Condition

3. A VIN or chassis number must not have been removed, erased, altered, defaced, obscured, destroyed, obliterated or affixed unlawfully, or be unauthorised.

Page amended **1 October 2022** (see amendment details).

1-2 Vehicle details

Reasons for rejection

1. The number on the registration plate(s) is not the same as stated on the licence label.

2. The licence label does not correctly describe the vehicle

- do not reject the vehicle if the label type is incorrect, eg 'B' or 'A'.

3. The Vehicle Inspection and Certification (VIC) or LATIS system does not correctly describe the vehicle.

Page added **1 October 2020** (see amendment details)

Page updated 1 November 2024 (see details)

2 Vehicle exterior

2-1 External projections

Reasons for rejection

Condition and performance

1. The risk of a component (Note 5) hooking a vehicle, or hooking or grazing a person, has not been minimised, eg a bonnet or bumper has been removed, exposing sharp, moving or hot components.

2. An ornamental object or fitting (Note 2) protrudes in such a way that it is likely to injure a person.

3. A protruding object or fitting that has a functional purpose (Note 3) is not installed so that the risk of causing injury to a person is minimised, eg the object or fitting:

a) is of excessively heavy construction for the purpose for which it has been fitted, or

b) has sharp corners, or

c) slopes forward, unless this is necessary to fit the contours of the vehicle, or

d) has an unnecessarily wide gap between the object or fitting and the front of the vehicle, or

e) exceeds the vehicle's width by more than 100mm on either side, other than side mounted glass sheet transport racks and collapsible side mirrors, or

f) is a glass sheet transport rack that is not fitted with a front flaring to minimise the risk of injury to a person.

4. A protruding component, object or fitting is not securely attached to the vehicle.

5. A protruding object or fitting adversely affects the driver's vision or control.

Modifications

6. A modification (Note 4) affects an external projection – including a protruding object or fitting that has a functional purpose and affects the driver's vision or control of the vehicle, and

a) is not excluded from the requirements for specialist certification (Table 2-1-1), and

b) is missing proof of specialist or accepted overseas certification, ie:

i. the vehicle is not fitted with a valid vehicle certification plate (eg low volume vehicle plate or heavy vehicle certification plate/label), or

ii. the operator is not able to produce a valid modification declaration or authority card

iii. the vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13** .

Note 1

The external projections requirements relate to the design and maintenance of objects and fittings that protrude from the exterior of the motor vehicle with regard to the safety of other motor vehicles, pedestrians and cyclists. The attachment of such objects and fittings to the vehicle is addressed in the **Vehicle structure** section of this manual.

Note 2

Ornamental object or fitting means an object or fitting that does not have a practical purpose, eg bonnet emblems.

Note 3

Functional object or fitting means an object or fitting that has a practical purpose, eg panniers, pack racks, spare wheel carriers, and so on.

Note 4

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with equivalent undamaged or new structures, systems, components or equipment.

Note 5

Components include damaged, corroded and exposed body panels.

Note 6

The following vehicles with a GVM of 2500kg or less must comply with a frontal impact occupant protection standard:

- Class MA motor vehicles manufactured on or after 1 March 1999
- Class MA motor vehicles that were less than 20 years old when they were first registered in New Zealand on or after 1 April 2002
- Class MB and MC motor vehicles manufactured on or after 1 October 2003.

Note 7

Rear bumper removal must still meet external projection requirements.

Note 8

Heating, drilling, welding or cutting the vehicle structure, modifying a roof bow, or modifying any part of the structure anchorage would be considered to weaken the structure. Cutting a single layer of unstressed panel of sheet metal (ie roof) is not considered to weaken the vehicle structure. Drilling a hole suitable for a child restraint top tether does not require LVV certification.

Note 9

A pedestrian trap is any part of a vehicle that may hook, catch or pull/push a pedestrian into or under a vehicle. Vehicle components should be shaped to reduce injury to a pedestrian and to move the pedestrian away from the vehicle in the event of an incident.

Table 2-1-1. Modifications that do not require specialist certification

Fitting of or modification to:	Specialist certification is not required provided that:
Body kits and components (including utility canopies, plastic bumper skins and bonnet projections)	• the fitting system does not weaken the vehicle structure (Note 8), and • no frontal impact components have been removed where the vehicle is required to comply with a frontal impact occupant protection standard (Note 6) • the kit or components do not present any external projections that could cause injury, to the occupants or pedestrians, or present a snagging/hooking risk to a vehicle or person, and • the performance of any lamps is not affected as a result of the fitting of the kit or components, and • the driver's vision has not been affected. See also **Table 3-1-1**.
Side racks (for glass or other sheet materials)	• there is no doubt as to the rack's load carrying capacity, and • the rack is secured without weakening the vehicle structure (Note 8) and, • no forward-facing pedestrian traps exist (Note 9), and ○ the rack is designed and protected so that sharp or dangerous cargo cannot face directly forward projecting beyond the outside of the body. See also **Table 3-1-1**.
Bumper bar (removal and change) (Note 7)	• the vehicle is not required to comply with a frontal impact occupant protection standard (Note 6), and • does not weaken the vehicle structure (see Note 8), and • any changes to the bumper do not affect the performance of mudguards, or • a rear bumper bar has been replaced by a towbar crossmember. See also **Table 3-1-1**.

Auxiliary bars (including bull bars, nudge bars, external roll cages and A-frames [or similar])	• the vehicle is not required to comply with a frontal impact occupant protection standard (Note 6)
	• the auxiliary bar:
	  ◦ presents no pedestrian traps (Note 9), and
	  ◦ is not angled forward except where necessary to clear the contours of the vehicle, and
	  ◦ presents no sharp edges or an external radius of less than 3mm
	• the winch either:
	  ◦ does not protrude forward of the front face of the bumper, or
	  ◦ does project forward of the bumper line but is fitted with 'pedestrian-friendly' shrouds to reduce trapping risk and present a larger forward-facing surface area
	• the vehicle is required to comply with a frontal impact occupant protection standard and the auxiliary bar:
	  ◦ is a vehicle manufacturer supplied component for that vehicle, or
	  ◦ has been certified by the auxiliary bar manufacturer as frontal impact compliant (as may be indicated by a label).
	
	Note that an auxiliary bar that does not meet the above minimum requirements is unlikely to meet LVV requirements and so cannot be certified.
	
	See also **Table 3-1-1**.

A-frames	• the A-frame meets all of the following requirements:
	  ◦ is attached to the chassis by means other than welding, and
	  ◦ the components are fit for purpose, and
	  ◦ the brackets remaining on the vehicle when the A-frame is removed are recessed behind the forward surface of the bumper by no less than 20mm, and
	  ◦ the brackets are fitted so that they do not bridge the vehicle's crumple zones, and
	  ◦ the brackets are fitted so that they do not significantly stiffen the front of the vehicle.
	
	See also **Table 3-1-1**.

Bonnet emblems or badges	• the emblem or badge is designed and attached in such a way that it will fold back or break off in the event of contact, without leaving any sharp edges, or • the emblem or badge has no sharp edges, and is fitted flat to the bonnet with a thickness no more than 10mm.

Bonnet pins	• the vehicle is not required to comply with a frontal impact occupant protection standard (Note 6); and
	  ◦ the pins:
	  ▪ have no sharp edges/are rounded with radius more than 3mm, and
	  ▪ do not present any external projections that could cause injury, to the occupants or pedestrians, and
	  ▪ do not present a snagging risk

Ute trays	For vehicles first registered in New Zealand **before 1 January 2021**: • in-service requirements For vehicles first registered in New Zealand **on or after 1 January 2021**: • the tray has no sharp edges and radiuses of not less than 3mm on every external edge, and • no forward-facing pedestrian traps exist (Note 2), and • the tray protrudes no more than 100mm from the widest part of the vehicle cab/body structure (excluding mirrors), or • the forwards edges of the tray are tapered rearwards at an angle of no less than 30 degrees from the tray's front edge or have an equivalent, or better, form of pedestrian protection. See also **Table 3-1-1**.

Fitting of or modification to:	Specialist certification is never required:
Aerials	• in-service requirements for conditions and performance must be met.
Roof-mounted solar panels	
Trunk racks	
Roof-mounted wheelchair winch	
Roof racks (except heavy PSVs)	
Additional or substituted rear-view mirrors	
Any modification for the purposes of law enforcement or the provision of emergency services	

Summary of legislation

Applicable legislation

- **Land Transport Rule: External Projections 2001**.

Permitted equipment

1. A motor vehicle may be fitted with a protruding ornamental or functional object or fitting.

Condition and performance

2. A protruding ornamental object or fitting must not be likely to injure a person.

3. A protruding object or fitting that has a functional purpose must be installed so that the risk of the object or fitting causing injury to a person is minimised.

4. Components of a motor vehicle, including damaged or corroded body panels, must be such that the risk of their hooking a vehicle, or hooking or grazing a person, is minimised.

5. A protruding object or fitting must not adversely affect driver vision or driver control.

Modifications

6. A modification that affects an external projection must be inspected and certified by a specialist certifier, unless the vehicle:

a) is excluded from the requirement for specialist certification (Table 2-1-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **29 April 2020** (see **amendment details**).

2-2 Dimensions

The vehicle inspector need only inspect dimensions in detail if there is doubt about the vehicle's compliance.

Note 1

Rigid vehicle means a vehicle with motive power, driver's position and steering system, that does not have any pivot points to allow any part of the chassis of the vehicle to move or rotate in relation to any other part of the chassis of the vehicle; but includes a pivot steer vehicle.

Reasons for rejection

Mandatory equipment

1. A rigid vehicle (Note 1) with a GVM of 3501kg or more exceeds the dimension requirements set out in Table 2-2-3 and is not:

a) a specialist overdimension vehicle (Note 2), or

b) a vehicle designed primarily to transport an overdimension load, or

c) a vehicle operating on a valid permit, exemption or approval, or

d) a vehicle presented with a completed *50MAX proforma entry certification and permit application declaration* or *HPMV proforma entry certification and permit application declaration* signed by a heavy vehicle specialist certifier (Note 8) (Figure 2-2-5).

2. A rigid vehicle that exceeds the dimensions set out in Table 2-2-3 is not fitted with the appropriate hazard warning equipment set out in Table 2-2-4.

3. A required beacon cannot be activated and deactivated.

Note 2

Specialist overdimension vehicle means a vehicle of which the primary purpose is to carry out a specialist function that requires overdimension equipment, and is not primarily designed to transport overdimension or overweight loads and the dismantling of the equipment would make it unusable for its intended purpose, or it would take more than four hours to dismantle the equipment. Additional operational requirements may apply, eg if operated at night.

Note 3

High-productivity motor vehicle (HPMV) means a heavy motor vehicle or heavy combination vehicle with or without a load:

a) exceeds a gross mass of 44,000kg, or

b) varies from a dimension requirement in Table 2-2-3, (other than width, height or ground clearance), or

c) both (a) and (b), and

d) operates on an HPMV permit issued by a road controlling authority.

Road controlling authority means the authority, body or person having control of the road (eg the Transport Agency, regional council or an authorized delegate)..

Note 4

An HPMV that does not comply with a dimension requirement in Table 2-2-3 may comply instead with a variation to that requirement as specified on the HPMV permit. The permit must be produced for inspection if required. Any other conditions specified on the permit are not required to be enforced at CoF.

Note 5

A bicycle rack fitted to the front of a vehicle of class MD3, MD4 or ME is not included in determining the overall length or forward distance of the vehicle provided the vehicle complies with the applicable swept path performance measures in section 3.5(2) of the **Land Transport Rule: Vehicle Dimensions and Mass 2016**.

Note 6

A high-productivity motor vehicle is not required to comply with the Hazard warning equipment requirements of Table 2-2-4.

Note 7

Instead of displaying a hazard warning flag or panel, the boom head of a mobile crane may be painted to delineate its excess front overhang, provided that the colour of the paint on the front face of the boom head is either white, yellow or red or a combination of these colours, so that the area on each side of the boom head that is painted covers an area of not less than 0.12 square metres (eg 400mm x 300 mm).

Note 8

The entry certification and permit application declaration forms can be downloaded from the Waka Kotahi website:

50MAX proforma entry certification and permit application declaration

HPMV proforma entry certification and permit application declaration

Table 2-2-3. Dimension requirements for heavy rigid vehicles

(see Note 4, Note 5)

Dimension	Maximum distance	Comments
Width	2.55m, or 1.275m from each side of the longitudinal centreline of the vehicle	Measurement does not include: • collapsible mirrors which extend no more than 240mm from the side and 1.49m when measured from the vehicle's longitudinal centre line • direction indicator and side-marker lamps • cab exterior grab rails that extend no more than 1.325m when measured from a vehicle's longitudinal centre-line • the bulge towards the bottom of a tyre • central tyre inflation system hoses that extend not more than 75mm beyond the outside of the tyre on the drive axles • a hubodometer that extends not more than 50mm beyond one side of a vehicle from a non-lifting, non-steering axle whose outer casings are of a light colour, provided the hubodometer is fitted on the axle that causes the least overwidth • trolley bus poles and their safety cables • cameras or close-proximity monitoring systems mounted on the side exterior of a vehicle that extends not more than 70mm from the side wall of the vehicle • devices for improving the aerodynamic performance of a vehicle that extend not more than 25mm from either side of a vehicle.

Dimension	Maximum distance	Comments
Overall length	11.5m (tow coupling fitted) 12.6m (no tow coupling fitted) 13.5m (rigid bus with three axles where the rearmost axle is a single-tyred steering axle that is: a) either positively and continuously linked to the front steer (except may be locked for reverse and high-speed operation); or b) automatically locked at a speed of 30 km/h in the straight-ahead position and for reverse operations) 18m (articulated bus)	Measurement does not include: • collapsible mirrors • up to 50mm of any ferry securing point that extends beyond the body of the vehicle.
Height	4.3m	
Forward distance	8.5m (tow coupling fitted) 9.5m (no tow coupling fitted) 8.5m (for both front and rear sections of an articulated bus)	Forward distance is measured from: • the rear axis to the front of a rigid vehicle or front section of an articulated bus • the rear axis of the rear section of an articulated bus to the centre of the point of attachment to the front section of the articulated bus. Measurement does not include collapsible mirrors. A vehicle with a retractable axle must meet the dimension requirements whether the axle is in contact with the road or in the retracted position.

Dimension	Maximum distance	Comments
Rear overhang	4m or 70% of wheelbase (whichever is less) wheelbase where rearmost axle is a non-steering axle 4.25m or 70% of wheelbase (whichever is less) wheelbase where rearmost axle is a steering axle 4.5m or 72% of wheelbase (whichever is less) of a rigid bus that exceeds 12.6 in overall length 4m or 50% of forward distance (whichever is less) of an articulated bus 4m (for a vehicle first registered anywhere before 1 December 1989)	Rear overhang is measured from the rear axis to the rear of the vehicle. A vehicle with a retractable axle must meet the dimension requirements whether the axle is in contact with the road or in the retracted position.
Ground clearance	The greater of 100mm or 6% of the distance from the nearest axle to the point where the ground clearance is measured	Measurement does not include flexible mudflaps, wheels, tyres or devices designed to discharge static electricity.
Front overhang	3m	Front overhang is measured from the front edge of the driver's seat in the rearmost position to the front of the vehicle.
Articulated vehicle point of attachment	No further rearward than centre of rear axle (where rear axle set consists of only one axle) No further than 300mm rearward of rear axis (where rear axle set consists of more than one axle)	Does not apply to articulated buses.
Tow coupling position (articulated bus only)	45% of wheelbase of the leading unit	The tow coupling position is the distance rearward from the vehicle's rear axis to the centre of the tow coupling.

Dimension	Maximum distance	Comments
Turning circle	25m outside diameter 10.6m inside diameter (articulated bus only)	The vehicle must complete a 360-degree turn in either direction. No part of the vehicle (other than collapsible mirrors) must extend beyond the outside diameter or into the inside diameter.

Table 2-2-4. Hazard warning equipment requirements for vehicles that exceed the dimensions in Table 2-2-3 (see Figure 2-2-3 for vehicle category thresholds) (Note 6)

Vehicle category (see Figure 2-2-3)	Dimension	Limits (up to and including)	Required hazard warning equipment
Category 1	Width/forward distance	2.55m /11.4m, or 3.1m/10.5m, or 3.7m/8.5m, or	1. Flags[1] or panels[2] fitted on each side at the front and rear as close as practical to the outside edge (for alternative requirements for a mobile crane see (Note 7)) 2. OVERSIZE sign[3] fitted at the front and rear if more than 3.1m wide
	Length	25m, or	
	Front overhang	7m, or	
	Rear overhang	7m	
Category 2 (not including category 1)	Width/forward distance	2.55m /13.3m, or 4.5m/8.5m, or	1. Panels[2] fitted on each side at the front and rear as close as practical to the outside edge (for alternative requirements for a mobile crane see (Note 7)) 2. OVERSIZE sign[3] fitted at the front and rear if more than 3.1m wide 3. Amber beacon fitted so that it is visible to approaching traffic if the vehicle is more than 3.7m wide
	Length	35m, or	
	Front overhang	10m, or	
	Rear overhang	10m	
Category 3 (not including category 2)	Width/forward distance	2.55m /20m 5m/20m 5m/8.5m	1. Panels[2] fitted on each side at the front and rear as close as practical to the outside edge (for alternative requirements for a mobile crane see (Note 7)) 2. OVERSIZE sign[3] fitted at the front and rear 3. Amber beacon fitted so that it is visible to approaching traffic if the vehicle is more than 3.7m wide
	Front overhang	10m, or	

Vehicle category (see Figure 2-2-3)	Dimension	Limits (up to and including)	Required hazard warning equipment
Rear overhang	10m		
Category 4A (not including category 3)	Width/forward distance	11m/20m 11m/8.5m	1. Panels[2] fitted on each side at the front and rear as close as practical to the outside edge (for alternative requirements for a mobile crane see (Note 7)) 2. OVERSIZE sign[3] fitted at the front and rear 3. Amber beacon fitted so that it is visible to approaching traffic if the vehicle is more than 3.7m wide
	Front overhang	10m, or	
	Rear overhang	10m	
Category 4B	Exceeding any limit in Category 4A		1. Panels[2] fitted on each side at the front and rear as close as practical to the outside edge 2. OVERSIZE sign[3] fitted at the front and rear 3. Revolving amber beacon fitted so that it is visible to approaching traffic if the vehicle is more than 3.7m wide

1. Panels[2] fitted on each side at the front and rear as close as practical to the outside edge (for alternative requirements for a mobile crane see (Note 7))

2. OVERSIZE sign [3] fitted at the front and rear

3. Revolving amber beacon fitted so that it is visible to approaching traffic if the vehicle is more than 3.7m wide

[1] Flags:

- must be fluorescent yellow
- must be at least 400mm long x 300mm wide.

[2] Hazard warning panels:

- must be reflective yellow-green with a reflective orange diagonal stripe
- comply with AS/NZS 1906.1:2007
- be frangible for those portions which extend beyond the vehicle's limits (frangible means breakable or readily deformable)
- must be of at least the minimum dimensions and the colours specified in Table 2-2-4.

[3] OVERSIZE sign:

- must be black lettering on a yellow-green background
- must be at least 300mm x 1100mm in size

- be frangible if any part of the sign extends beyond the body or load of the vehicle, whichever it is attached to (frangible means breakable or readily deformable)
- may be in two parts: OVER and SIZE.

Figure 2-2-1. Hazard panel details

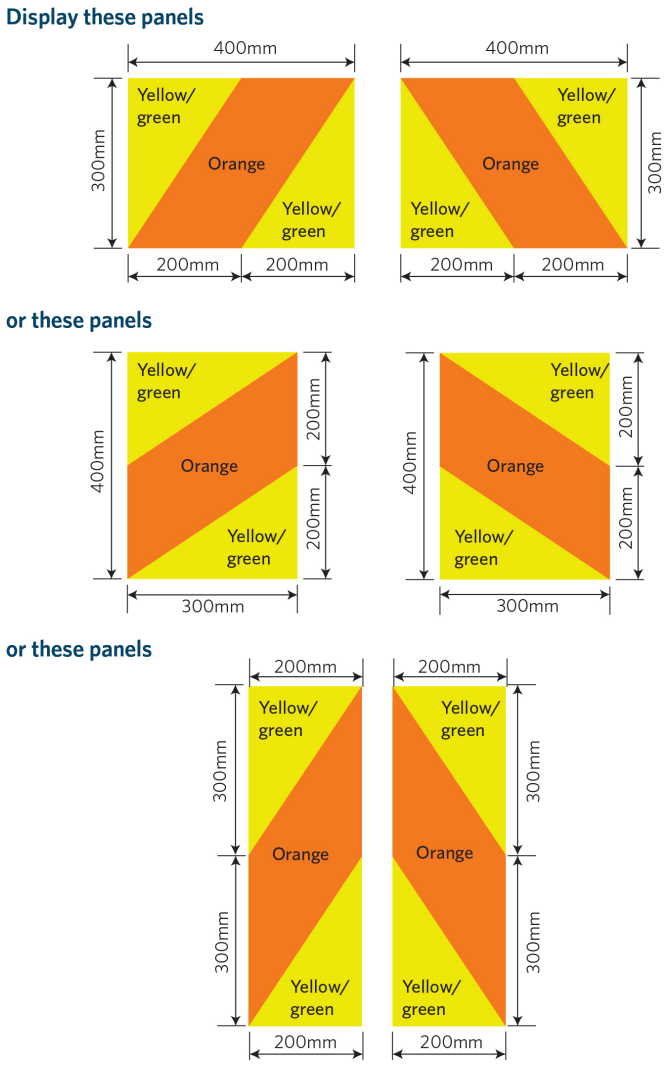


Figure 2-2-2. Hazard panel location and orientation

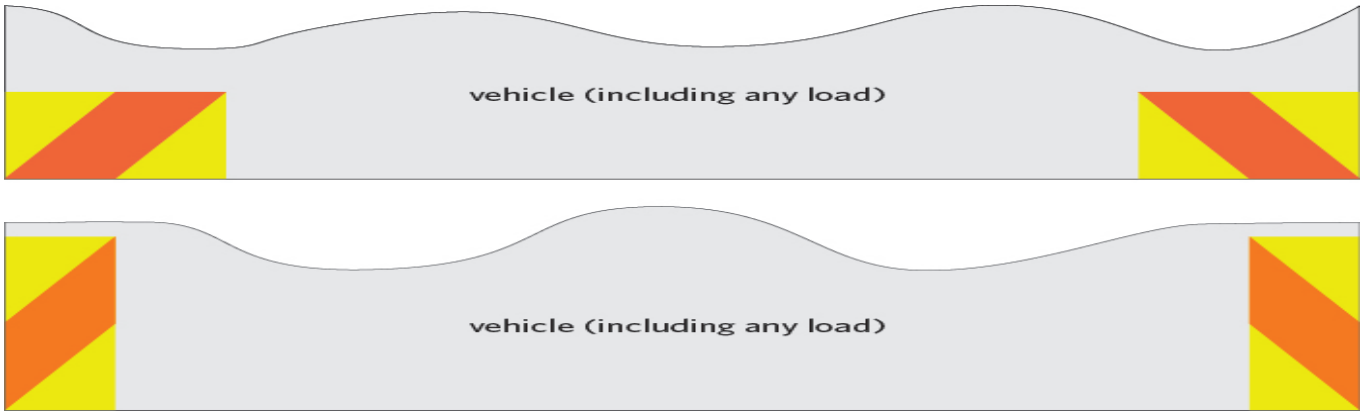
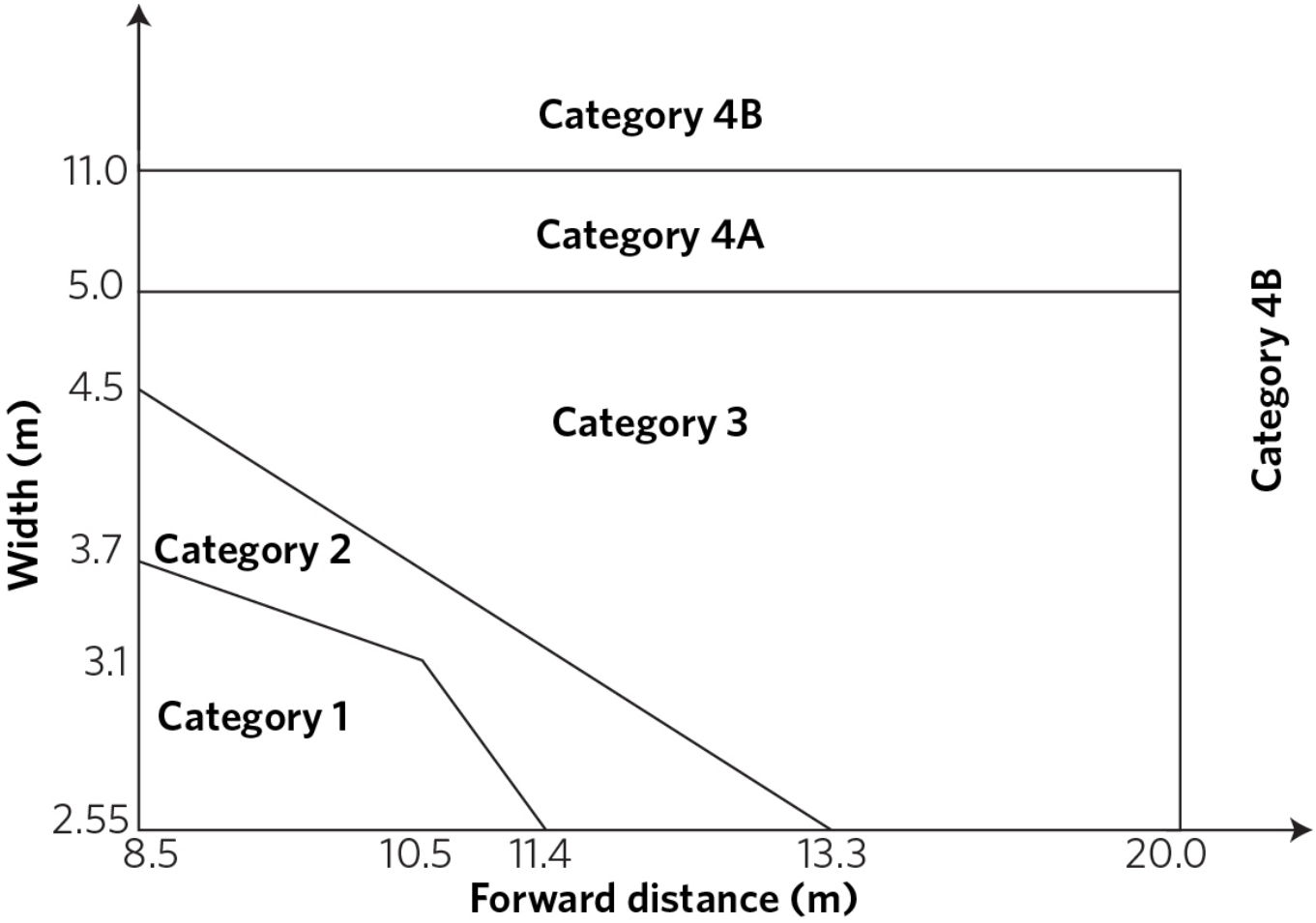


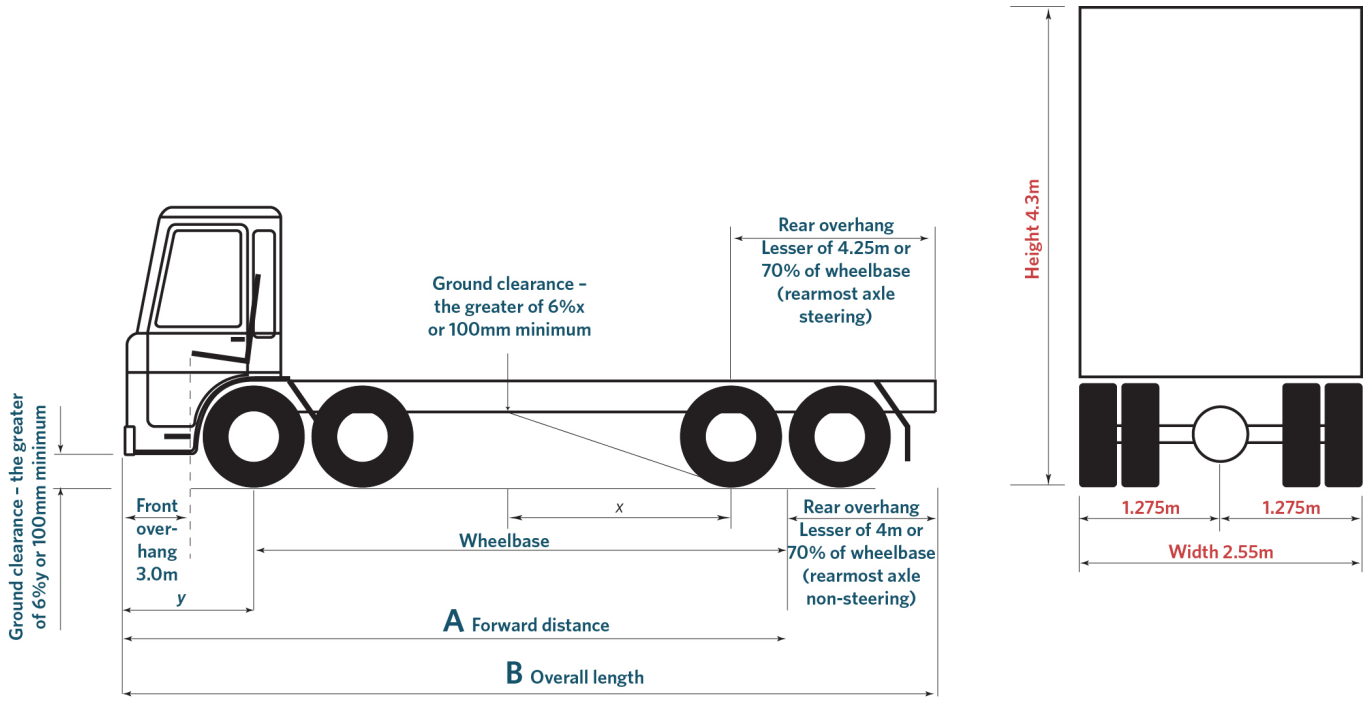
Figure 2-2-3. Vehicle categories and width/forward distance thresholds



For the purposes of this figure, vehicles with a width less than 2.55m are deemed to have a width of 2.55m and vehicles with a forward distance of less than 8.5m are deemed to have a forward distance of 8.5m.

Figure 2-2-4. Dimensions for rigid heavy vehicles

(Note: Red text indicates a dimension change in VDAM 2016)



A 9.5m – no tow coupling
8.5m – with tow coupling

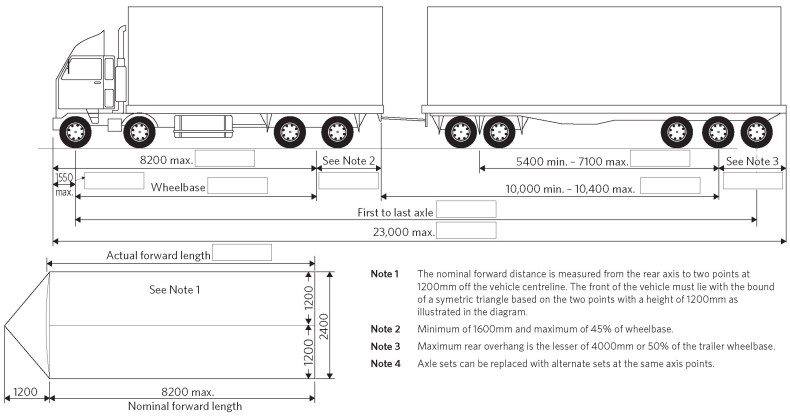
B 13.5m – Rigid bus with 3 axles where the rearmost axle is a single-tyred steering axle (11.5m with tow coupling)
12.6m – all other vehicles (11.5m with tow coupling)

Figure 2-2-5. Sample 50MAX proforma entry certification and permit application declaration and HPMV proforma entry certification and permit application declaration

HPMV PROFORMA ENTRY CERTIFICATION AND PERMIT APPLICATION DECLARATION

02/21

HPMV 23M TRUCK AND FULL TRAILER



Note 1 The nominal forward distance is measured from the rear axis to two points at 1200mm off the vehicle centreline. The front of the vehicle must lie with the bound of a symetric triangle based on the two points with a height of 1200mm as illustrated in the diagram.

Note 2 Minimum of 1600mm and maximum of 45% of wheelbase.

Note 3 Maximum rear overhang is the lesser of 4000mm or 50% of the trailer wheelbase.

Note 4 Axle sets can be replaced with alternate sets at the same axis points.

The information requested is required to confirm that the vehicle meets the dimension thresholds provided in Waka Kotahi NZ Transport Agency-approved proforma designs for high productivity motor vehicles and to support an application for a High Productivity Motor Vehicle Permit under the Land Transport Rule: Vehicle Dimensions and Mass 2016. Waka Kotahi (and its agents) will hold, store, use and disclose any personal information collected on this form in accordance with the Privacy Act and the Land Transport Act. You are entitled to access, and request the correction of, any readily retrievable personal information held about you by Waka Kotahi. You can do so by writing to us at Private Bag 11777, Palmerston North 4442 or by emailing: info@nzta.govt.nz

	Plate number	VIN/chassis number	Make	Model	Year
Truck/tractor					
Trailer 1					

Name of heavy vehicle specialist certifier | Signature of heavy vehicle specialist certifier | Date

I state that, to the best of my knowledge and belief, all the information given for this application is true and correct.
Warning: It is an offence under the Land Transport Act 1998 to provide information that is known to be is false or misleading.

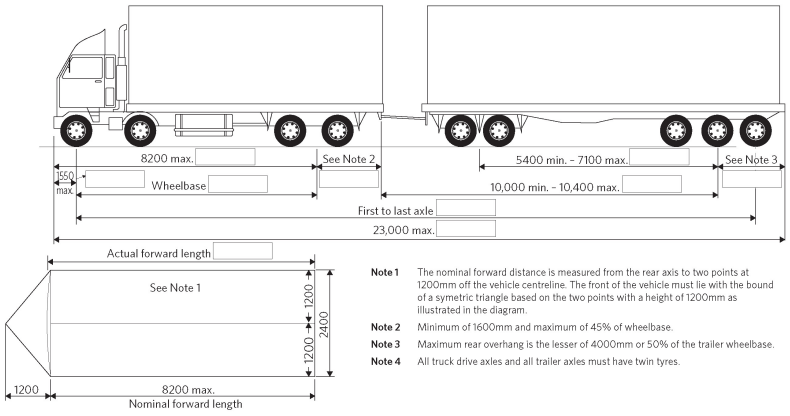
WAKA KOTAHI NZ TRANSPORT AGENCY

New Zealand Government

50MAX PROFORMA ENTRY CERTIFICATION AND PERMIT APPLICATION DECLARATION

02/21

50MAX 23M TRUCK AND FULL TRAILER



Note 1 The nominal forward distance is measured from the rear axis to two points at 1200mm off the vehicle centreline. The front of the vehicle must lie with the bound of a symetric triangle based on the two points with a height of 1200mm as illustrated in the diagram.

Note 2 Minimum of 1600mm and maximum of 45% of wheelbase.

Note 3 Maximum rear overhang is the lesser of 4000mm or 50% of the trailer wheelbase.

Note 4 All truck drive axles and all trailer axles must have twin tyres.

The information requested is required to confirm that the vehicle meets the dimension thresholds provided in Waka Kotahi NZ Transport Agency-approved proforma designs for high productivity motor vehicles and to support an application for a High Productivity Motor Vehicle Permit under the Land Transport Rule: Vehicle Dimensions and Mass 2016. Waka Kotahi (and its agents) will hold, store, use and disclose any personal information collected on this form in accordance with the Privacy Act and the Land Transport Act. You are entitled to access, and request the correction of, any readily retrievable personal information held about you by Waka Kotahi. You can do so by writing to us at Private Bag 11777, Palmerston North 4442 or by emailing: info@nzta.govt.nz

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WAKA KOTAHI NZ TRANSPORT AGENCY

New Zealand Government

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Dimensions and Mass 2016**.

Mandatory equipment

1. A rigid vehicle, or an articulated bus, with a GVM of 3501kg or more that exceeds the dimensions in Table 2-2-3 must meet the requirements in Table 2??2?4.

2. A vehicle may exceed the dimensions in Table 2-2-3 only if it is a vehicle operating on a valid permit, exemption or approval.

Page amended **1 June 2019** (see **amendment details**).

2-3 Heavy vehicle equipment

Reasons for rejection

Mandatory equipment

1. An outrigger fitted to a vehicle does not have a locking device to prevent its inadvertent extension or separation .

2. The A vehicle recovery service hook truck or stinger-lift truck does not have its manufacturer's stated lifting capacity clearly displayed, in kilograms, at the rear of the vehicle in letters and figures not less than 30mm high, rounded to the nearest 50kg

Condition and performance

3. A vehicle of class NB or class NC that is fitted with a swivelling (or knuckle boom) crane for loading the vehicle or a trailer towed by the vehicle does not have either:

a) a locking device fitted to each outrigger that is able to be seen in a locked position when an outrigger is retracted, or

b) a visual or audible alarm to warn the driver if an outrigger is not in the fully retracted position (Note 2).

4. An outrigger locking device is bent, worn or otherwise damaged or deteriorated so that it is not effective.

5. An outrigger locking device does not lock the outrigger in its retracted position.

Note 1 Definitions

Outrigger means, in relation to a vehicle fitted with a crane or a hoist, a device fitted to the vehicle that extends and stabilises the vehicle while the crane or hoist is in use.

Hook truck means a vehicle recovery service vehicle with a crane hoist that partially lifts the vehicle to be recovered, which is then towed in this position.

Stinger-lift truck means a recovery service vehicle with an arm that partially lifts the vehicle to be recovered, which is then towed in this position.

Vehicle recovery service vehicle means a vehicle used in a vehicle recovery service for towing or transporting on a road any motor vehicle; does not include a vehicle that is not designed or adapted for the purpose of towing or carrying motor vehicles.

Lifting gear means, in relation to a vehicle recovery service vehicle, any equipment used to lift another vehicle, and includes a towing connection.

Note 2

An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Mandatory equipment

1. An outrigger fitted to a vehicle must have a locking device to prevent its inadvertent extension or separation.

2. The manufacturer's stated lifting capacity of a hook truck or stinger-lift truck must be clearly displayed, in kilograms, at the rear of the vehicle in letters and figures not less than 30 mm high, rounded to the nearest 50kg.

Condition and performance

3. A vehicle of class NB or class NC that is fitted with a swivelling (or knuckle boom) crane for loading the vehicle or a trailer towed by the vehicle must be:

a) fitted with a locking device to each outrigger that is able to be seen in a locked position when an outrigger is retracted, or

b) equipped with a visual or audible alarm to warn the driver if an outrigger is not in the fully retracted position.

4. An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

5. An outrigger locking device must be effective.

3 Vehicle structure

3-1 Structure

Reasons for rejection

Mandatory equipment

1. A sliding chassis is not fitted with both:

a) a locking device to prevent inadvertent extension or separation, and

b) end stops at the end of the slideway to prevent separation of the sliding parts if the primary locking device fails.

Condition and performance

2. Refer to **general vehicle pages**.

3. The chassis (Note 1), body or other load-bearing structure of a vehicle, including a cab or a monocoque construction body, has damage so that the vehicle is no longer of adequate strength for all conditions of loading and operation for which the vehicle was constructed, such as:

a) deformation from original shape that has affected the vehicle's structural integrity (Note 6) (Figure 3-1-4), or

b) cracking, or

c) significant corrosion or delamination, or

d) significant rust heave that exceeds the limits in (Figure 3-1-3), or

e) poor repairs that have not returned the structure to within safe tolerance of when it was manufactured, eg:

i. filler has been used to conceal corrosion damage or deformation of a component

ii. a high-strength steel component has been heated

iii. a component has been strengthened.

f) loose, broken or missing fasteners or rivets, or

g) damage that affects the integrity, operation or mounting of the following components:

i. steering and suspension system, or

ii. load anchorages

iii. seat or seatbelt anchorages, or

iv. brake system, or

v. mandatory lighting equipment, or

vi. towing connections, or

vii. transmission, or

viii. cab or vehicle body.

4. A body-to-chassis attachment, such as a weld, fastener, hinge, body guide or locking device, is:

a) missing, or

b) loose, or

c) broken, or

d) cracked, or

e) otherwise in poor condition.

5. A tipping body hinge, body guide or locking device has deteriorated so that it is not effective in securing the body to the chassis.

6. The locking of a sliding chassis locking device is either:

a) not readily verifiable by visual inspection, or

b) the vehicle is not equipped with a visible or audible alarm to warn the driver if the chassis is not locked in one of the locking positions (Note 5).

7. A sliding chassis locking device has wear or damage, such as a worn or bent pin, so that it is not effective.

8. A sliding chassis locking device does not operate correctly.

9. A sliding chassis end stop is:

a) missing, or

b) insecure, or

c) damaged.

10. A bin securing device does not operate correctly.

11. A vehicle which uses a wooden or wood laminate floor as a structural component of the chassis has:

a) deformation from original shape that has affected the vehicle's structural integrity (Note 6) (Figure 3-1-4), or

b) significant cracking of the body structure or mounting points, or

c) significant corrosion of steel elements, delamination, or wood rotting or

d) significant rust heave in steel elements that exceeds the limits in (Figure 3-1-3), or

e) poor repairs that have not returned the structure to within safe tolerance of when it was manufactured, for example:

i. filler has been used to conceal any damage or deformation of a component

ii. a high-strength steel component has been heated

iii. a component has been strengthened.

Modification and repair

12. A modification or repair affects the vehicle structure and:

a) is not excluded from the requirements for HVS certification (Table 3-1-2), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from a HVS certifier of category HVEC, or HMCD has been presented.

Note 1 Definitions

Chassis means the structural lower part of a vehicle to which the running gear and, as applicable, engine, transmission, steering system and body may be attached.

Chassis assembly means a chassis with running gear attached and, as applicable, engine, transmission and steering system attached.

Body means the part of the vehicle that is designed for the use and accommodation of the occupants or to hold any goods.

Note 2

Rust stains can indicate fretting or movement between two components, eg as a result of loose fasteners or cracking.

Note 3

Chassis cracking is most likely to occur in the following areas:

- abrupt changes in chassis section
- adjacent to welds
- body mounting points
- adjacent to loose fasteners
- notches.

Note 4

Corrosion is most likely to occur in areas where moisture is retained, or when the vehicle is used to carry stock, fertiliser or corrosive cargo.

Note 5

An alarm must be visible or audible from the driver’s seating position, and the alarm must operate when the vehicle’s engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the ‘park’ position.

Note 6

Dents smaller than 5mm deep and 40mm in diameter (to the outer edges of the crease), such as those caused by hail, in the pillars, cant rail or any other similar roof structure, should not be considered to affect the vehicles structural integrity. Any damage larger than above should be referred to a repairer for additional information (see Figure 3-1-4).

Table 3-1-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required

1. Repairs to a structural component of a monocoque body.

2. From 1 January 2025 (Note 8) repairs or modifications to a chassis, including a chassis cross-member, which is:

a) the first or last cross-member of the chassis

b) a cross-member that is fitted within 500mm of an engine mount, transmission mount, or suspension support

c) a cross-member to which a driveshaft centre bearing is fitted

d) a cross-member that supports any of the following:

i. ballrace turntable

ii. tow coupling

iii. fifth wheel

iv. kingpin

v. bolster attachment

vi. hoist, hydraulic cylinder of a tipping body or any other device that may place a concentrated load on the chassis.

3. Modifications carried out **on or after 1 April 2005** that may result in increased stress to a localised area of the chassis or significant redistribution of the load over the chassis (eg fitting of a hoist, crane, tipping body, or other special equipment, etc.).

For modifications carried out **before 1 April 2005** it is up to the vehicle inspector to determine if certification is required. Individual certification is only required when the vehicle inspector determines, on reasonable grounds, that the component presents a safety risk.

4. Modifications carried out **on or after 1 November 2018** to structural reinforcements of the cab/body likely to affect occupant protection (eg cut-outs through pillars, roof rails, reinforcements (not merely stiffeners), etc) for modifications such as campervan, crewcab, truck/bus conversions.

1. Repairs to a non-structural component of a monocoque body (eg a body panel).

2. Repairs to a first failure of a chassis cross-member except a repair listed in the left-hand column.

3. Repairs to a coaming rail that does not support a load anchorage point (including a stock crate J-hook) or that does not secure a load-rated curtain.

4. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required).

5. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed).

6. Any used Japanese-market imported heavy vehicle that has original equipment fitted does not require HVS certification, provided the vehicle inspector is satisfied that the vehicle was registered in Japan in that configuration and no further modification has taken place. This applies to all makes of vehicles (Note 7).

7. There is evidence of an acceptable alternative certification of the modification from the company that carried out the modification (ie a statement of compliance or a second stage certification plate or label). See **Technical bulletin 13: Acceptable overseas proof of modification**.

8. Modifications to the structure of a cab **on or before 31 October 2018**. This is under a temporary class exemption from specialist certification until 1 October 2026 (see **New Zealand Gazette notice 2021-au4295**). Note: condition and performance reasons for rejection still apply.

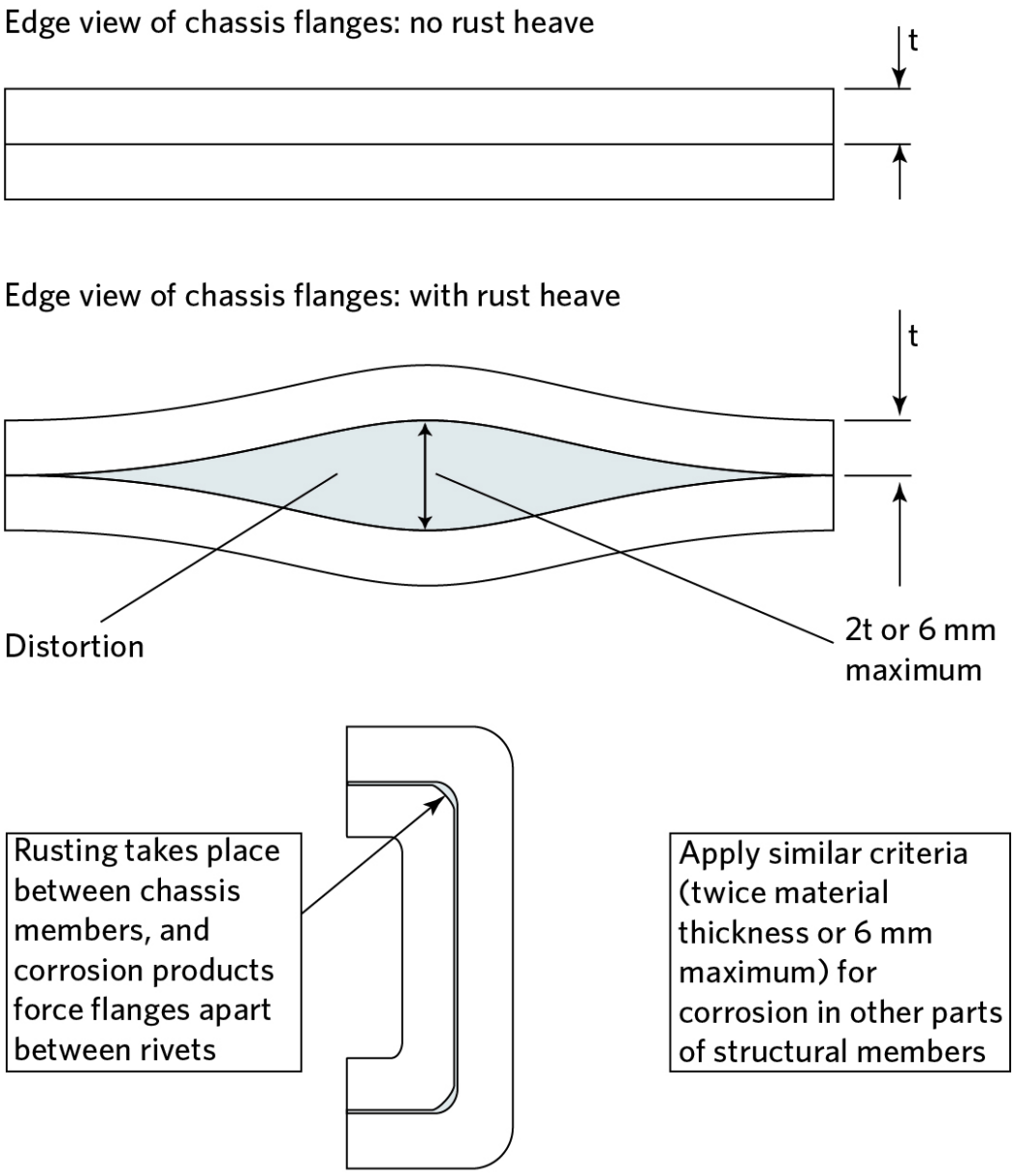
Note 7

Original equipment may include: tipper, tail lift, hi-ab, crane, compactor or similar equipment or body fitted and complied in Japan. For new vehicles see **Technical bulletin (CoF) 8**, for new and used vehicles from other markets see **Entry certification Technical bulletin 41**.

Note 8

Welding carried out as part of a chassis modification on or after 1 April 2005 required certification. However, that was not made clear in this VIRM. Consequently, welding carried out as part of a modification between 1 April 2005 and 31 December 2024 can remain uncertified provided the vehicle inspector is satisfied that the vehicles safety performance is unaffected.

Figure 3-1-3. Rust heave limits

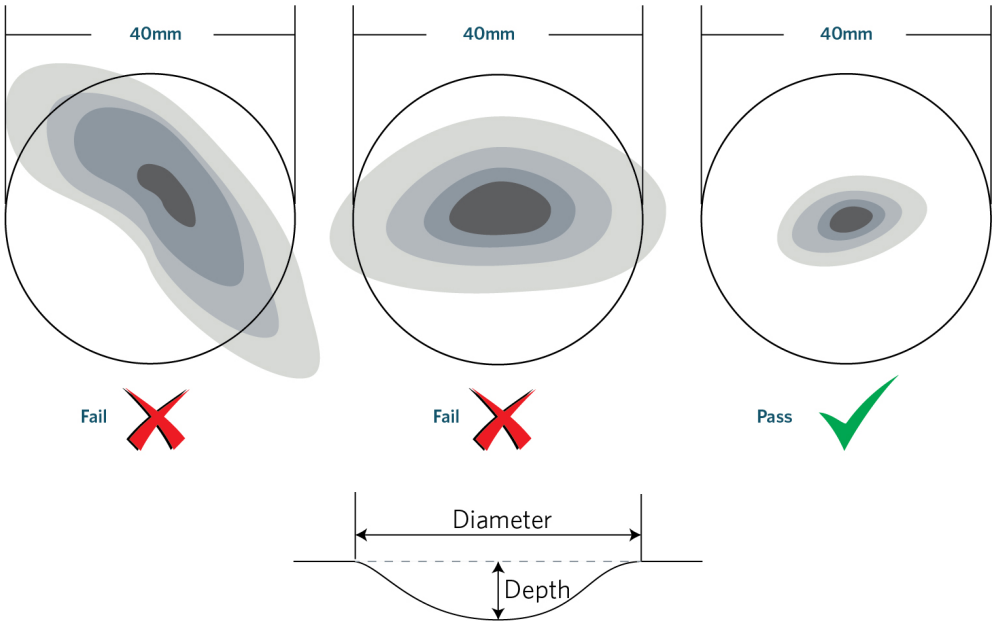


Note: where the flanges are of different thickness, ***t*** shall be taken as the minimum of these.

Rust heave beyond the limits described above is acceptable only if an HVS certifier with the HVEC category has confirmed in writing that at the time of inspection the identified chassis rust heave on the vehicle remains within safe tolerance of the vehicle's state of manufacture. Confirmation from the HVS certifier should be kept with the checksheet. The identity of the HVS certifier must be recorded in the Landata GNOTE page. This assessment is only valid for that specific CoF inspection.

Regardless of any expiry date, an inspector may refer the vehicle to an HVS certifier if he/she suspects that the safety of the vehicle is compromised, eg due to excessive corrosion or chassis cracking. If the chassis is repaired, an LT400 is required.

Figure 3-1-4. Deformation limits



Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Mandatory equipment

1. A sliding chassis must be fitted with:

    a) a locking device to prevent inadvertent extension or separation, and

    b) endstops at the end of the slideway to prevent separation of the sliding parts if the primary locking device fails.

2. The body of a vehicle such as a tank body for transporting bulk liquid, a tipping body for transporting sand, grain or other bulk goods, or other types of body that are constructed to contain the transported goods without the use of lashings, chains or other devices, must be specifically designed to contain that type and size of load.

Condition and performance

3. The following must be of adequate strength for all conditions of loading and operation for which the vehicle was constructed:

    a) the chassis and body of the vehicle

    b) the body of a vehicle of monocoque construction

    c) any other load-bearing structure.

4. The locking of a sliding chassis locking device must be readily verifiable by visual inspection or the vehicle must be equipped with a visual or audible alarm to warn the driver if the chassis is not in one of the locking positions.

5. An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

6. A sliding chassis locking device must be effective.

7. If a sliding chassis locking device incorporates a system that provides energy for its operation, the device must remain fully engaged in the locked position, or the locking action must be initiated immediately, if the energising system fails.

8. Load-securing equipment that is fitted to a vehicle must be constructed to ensure that the load can be securely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

9. A modification or repair that affects the vehicle structure must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 3-1-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **10 March 2025** (see **amendment details**)

4 Lighting

4-1 Headlamps

Reasons for rejection

Mandatory and permitted equipment

1. A vehicle other than class LE is not fitted with one pair of dipped-beam headlamps.

2. A vehicle other than class LE is fitted with more than:

a) one pair of dipped-beam headlamps (Note 10) , or

b) two pairs of dipped-beam headlamps if the vehicle was first registered anywhere between 1 January 1977 and 31 March 1980, or

c) two pairs of main-beam headlamps.

3. A vehicle other than class LE is fitted with a headlamp that is not in a pair.

4. A vehicle of class LE is not fitted with one dipped-beam headlamp.

5. A vehicle of class LE is fitted with more than:

a) two dipped-beam headlamps, or

b) two main-beam headlamps.

6. A vehicle (eg a vintage or veteran vehicle) does not meet standard headlamp requirements, and:

a) does not have a valid vehicle identity card with a lighting equipment endorsement, or

b) does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.

7. A device that allows the headlamps to flash alternately is fitted to a vehicle that is not an emergency vehicle or a pilot vehicle.

8. A vehicle is fitted with a dipped-beam headlamp where the maximum intensity of the beam is projected to the right.

Condition

(see Note 5)

9. A lamp is insecure, obscured, or contains dirt or moisture in the form of large droplets, runs or puddles.

10. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

11. A lens or reflector is damaged or has deteriorated so that light output is reduced.

12. A main-beam headlamp warning device is obscured from the driver's vision.

Performance

13. When switched on, a headlamp emits a light that is:

a) not substantially white or amber, or

b) not approximately equal in colour or intensity from the other lamp in a pair, or

c) not steady, or

d) not bright enough to illuminate the road ahead, eg due to modification, deterioration or an incorrect light source, or

e) too bright, eg due to the fitment of an HID or LED conversion kit (Note 8) or other incorrect light source (see also reason for rejection 19 below).

14. When the dipped-beam headlamps are switched on (with wheels pointing straight ahead):

a) a lamp does not operate, or

b) more than two lamps operate on dipped beam, or

c) more than four lamps operate on dipped beam on a vehicle first registered anywhere between 1 January 1977 and 31 March 1980, or

d) the light beam produces an incorrect beam pattern, is not focused, or is reduced or altered, or

e) the centreline of the light beam is too far to the left or slopes down too far so that the headlamp is no longer capable of illuminating the road at least 50m ahead (Figure 4-1-2), or

f) the centreline of the light beam projects to the right of the vehicle's centreline, or projects from the lamp at an angle other than:

i. as specified by the vehicle or lamp manufacturer, or

ii. as specified in Table 4-1-1.

15. When the main-beam headlamps are switched on (with wheels pointing straight ahead):

a) a lamp does not operate, or

b) more than two lamps operate on main beam on a class LE vehicle, or

c) more than four lamps operate on main beam on a vehicle of group M or N, or

d) a vehicle first registered anywhere between 1 February 1977 and 31 March 1980 has a second pair of dipped-beam headlamps that continue to operate, or

e) the centreline of the light beam projects to the right of the vehicle's centreline or up from the horizontal, or

f) the light beam produces an incorrect beam pattern, is not focused or is reduced or altered, or

g) the lamps are not capable of being switched to dipped beam or turned off from the driver's seating position, or

h) a main-beam headlamp warning device, if fitted as original equipment, does not indicate to the driver that the main-beam headlamps are switched on.

16. A device fitted to a vehicle that allows the headlamps to flash alternately:

a) does not indicate to the driver that the device is activated, or

b) flashes:

i. faster than two flashes per second, or

ii. slower than one flash per second, or

iii. at a varying frequency.

17. Where a headlamp comprises an array of light sources (eg LEDs) fewer than 75% of these operate.

Modifications

18. An overlay has been applied that reduces or distorts the light emitted from the lamp (eg a tinted cover).

19. A headlamp is retrofitted with a type of light source other than that specified by the vehicle manufacturer or the headlamp manufacturer (eg a headlamp designed for a halogen bulb is fitted with any other type of light source such as an HID or LED bulb, or any other light source such as LED strips or non-OEM angel eyes) (Note 8).

20. Retrofitted headlamps are not fitted:

a) as a pair, or

b) symmetrically, or

c) as far towards each side of the vehicle as is practicable.

21. A retrofitted dipped-beam headlamp on a vehicle with a GVM of 12,000 kg or less is positioned at a height exceeding 1.2m from the ground (Note 9).

Note 1

An **original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 2

If the dipped-beam headlamps are able to be adjusted from the driver's seating position, the alignment must be checked with the adjustment at its highest position.

Note 3

If the vehicle is fitted with self-levelling suspension, the alignment must be checked with the suspension at its normal level.

Note 4

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Headlamp means a lamp designed to illuminate the road ahead of a vehicle, and that is a:

a) dipped-beam headlamp (single lamp), or

b) main-beam (high-beam) headlamp (single lamp), and includes a driving lamp, or

c) combination of a dipped-beam headlamp and a main-beam headlamp (dual-lamp unit).

Dipped-beam headlamp means a headlamp that is designed to emit a dipped beam, which is a beam of light that is angled downwards in such a way that it prevents undue dazzle or discomfort to oncoming drivers and other road users.

Main-beam headlamp means a headlamp that is designed to illuminate the road over a long distance ahead of the vehicle.

Note 5

If a headlamp is fitted with a readily removable cover, other than a clear protective cover, this must be removed for inspection of the headlamp.

Note 6

A vehicle originally manufactured with a headlamp arrangement that differs from what is required or permitted in this section may retain the original headlamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 7

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.

Note 8

A high-intensity discharge (HID or Xenon HID) or LED conversion kit consists of an HID or LED bulb which fits into the original headlamp unit in place of the original bulb with no change to the headlamp lens, reflector or housing.

It is illegal to fit an HID or LED conversion kit to a vehicle as it brings the headlamp out of standards compliance by producing poor beam patterns and light that is often far too bright to be safe. The bulbs can also produce light that is noticeably blue and not the required substantially white or amber colour. Vehicle and headlamp manufacturers do not permit this modification, and these kits cannot be LVV certified.

It is permitted to replace a complete halogen headlamp unit with a complete HID or LED headlamp unit. If the vehicle is required to meet an approved safety standard for headlamps, only approved headlamps can be retrofitted (see Figure 4-1-1).

Note 9

The dipped-beam headlamps may be positioned at a height exceeding 1.2m if a road maintenance implement (eg, snowplough or roadsweeper) fitted to the front of the vehicle would obscure headlamps placed at a height of 1.2m or less.

Note 10

It is acceptable for a pair of dipped-beam headlamps to consist of one symmetric and one asymmetric dipped-beam headlamp. However, in some cases this may result in one lamp being noticeably brighter than the other lamp in the pair. In that case, the vehicle inspector may determine that the dipped beams differ noticeably in light intensity, and the lamps fail the inspection. Note that a beamsetter's luxmeter cannot measure the light intensity of a dipped beam headlamp.

Table 4-1-1. Allowable dipped-beam headlamp alignment

	Headlamp type	**Distance from ground to centre of light source**	**Dip rate of beam centre: lower and upper limits**		
			Percent (%)	mm/3 m	Degrees (°)
EITHER	Any headlamp dipped beam	N/A	That specified by the vehicle or headlamp manufacturer		
OR	Headlamp with an older style symmetric dipped-beam pattern (see Figure 4-1-2)	N/A	3.0–3.5	90–105	1.7–2.0
OR	Headlamp with a modern symmetric or asymmetric dipped-beam pattern and distance from ground to centre of light source (see Figure 4-1-2)	less than 0.8 m	1.0–1.5	30–45	0.57–0.85
		0.8–1.2 m	1.0–2.0	30–60	0.57–1.15
		more than 1.2 m	2.0–2.5	60–75	1.15–1.43

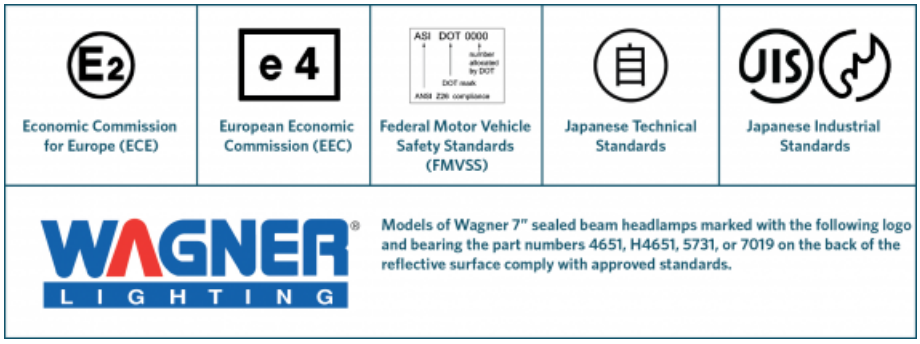
Table 4-1-2. Dipped-beam angle conversions

Percent (%)	mm/3 m	Degrees (°)
1.0	30	0.6
1.1	33	0.6
1.2	36	0.7
1.3	39	0.7
1.4	42	0.8
1.5	45	0.9
1.6	48	0.9
1.7	51	1.0
1.8	54	1.0
1.9	57	1.1
2.0	60	1.1
2.1	63	1.2
2.2	66	1.3
2.3	69	1.3
2.4	72	1.4
2.5	75	1.4
2.6	78	1.5
2.7	81	1.5

Percent (%)	mm/3 m	Degrees (°)
2.8	84	1.6
2.9	87	1.7
3.0	90	1.7
3.1	93	1.8
3.2	96	1.8
3.3	99	1.9
3.4	102	1.9
3.5	105	2.0

Figure 4-1-1. Approved headlamp standard markings

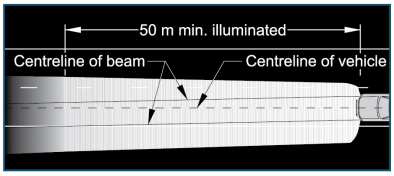
The following standard markings may assist in determining compliance with approved standards.



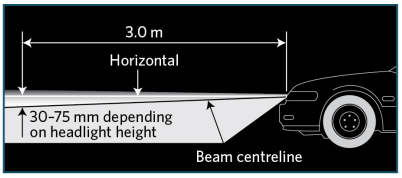
Vehicles required to comply with an approved headlamp standard are:

- vehicles of class MA and NA manufactured on or after 1 January 1992
- vehicles of class MB, MC, MD1, MD2, MD3, MD4, ME, NB and NC manufactured on or after 1 January 1996.

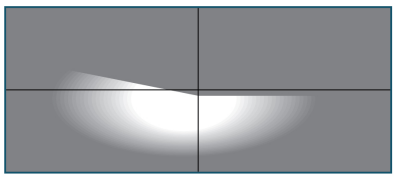
Figure 4-1-2. Minimum illuminated area



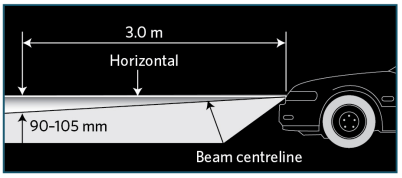
Minimum illuminated area



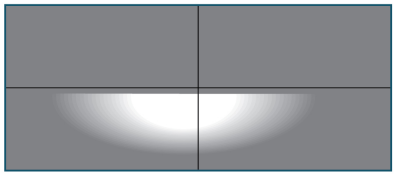
Asymmetric dipped beam



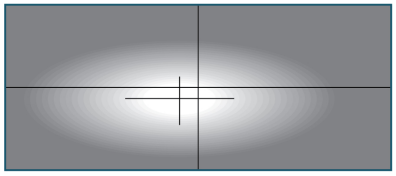
Asymmetric dipped beam headlamp pattern on light board



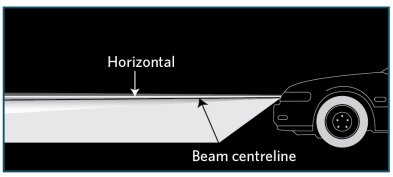
Symmetric dipped beam



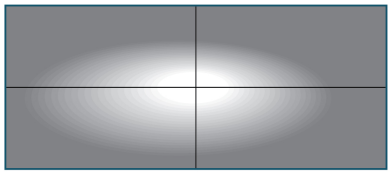
Modern symmetric dipped beam headlamp pattern on light board



Older-style symmetric dipped beam headlamp pattern on light board



Main (high) beam



Main (high) beam headlamp pattern on light board

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004
- New Zealand Gazette, 28 August 1980, issue 103, page 2569.

Mandatory and permitted equipment

1. A vehicle other than of class LE:

    a) must be fitted with one pair of dipped-beam headlamps, and

b) may be fitted with one or two pairs of main-beam headlamps.

2. A vehicle of class LE:

a) must be fitted with one or two dipped-beam headlamps, and

b) may be fitted with one or two main-beam headlamps.

3. A vehicle first registered anywhere between 1 February 1977 and 31 March 1980 may be fitted with a second pair of dipped-beam headlamps that:

a) do not operate when the main-beam headlamps are switched on, and

b) may operate independently of the first pair of dipped-beam headlamps.

4. A vehicle (eg a vintage or veteran vehicle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:

a) the vehicle has a valid vehicle identity card with a lighting equipment endorsement, and

b) the vehicle meets the conditions of that endorsement.

5. A vehicle required to meet an approved safety standard for lighting must continue to meet an approved safety standard for lighting.

6. A retrofitted dipped-beam headlamp on a vehicle with a GVM of 12,000 kg or less must be fitted at a height not exceeding 1.2 m from the ground (Note 9).

7. A warning device may be fitted that indicates that the main-beam headlamps are switched on.

8. An emergency vehicle or a pilot vehicle may be fitted with a device that allows the headlamps to flash alternately, provided it is also fitted with equipment that indicates to the driver that the device is activated.

9. A retrofitted pair of headlamps must be symmetrically mounted as far towards each side of the vehicle as is practicable.

Prohibited equipment

10. A dipped-beam headlamp designed solely for a left-hand drive vehicle, where the maximum intensity of the beam is dispersed to the right, must not be fitted.

Condition (Note 5)

11. A headlamp must:

a) be in sound condition, and

b) not be obscured.

Performance

12. A headlamp must operate in a way that is appropriate for the lamp and the vehicle.

13. A headlamp must emit a steady light.

14. A headlamp must provide sufficient illumination and light output to illuminate the road ahead.

15. If fitted with a device that allows headlamps to flash alternately, the lamps must flash at a fixed frequency.

16. A pair of headlamps must emit light that is approximately of equal colour and intensity when switched on.

17. A headlamp must emit a beam that is substantially white or amber.

18. A main-beam headlamp must be capable of being dipped or turned off from the driver's position.

19. A warning device that indicates that the main-beam lamps are in operation must be in good working order.

20. When the headlamps are switched on and the vehicle's front wheels are pointing in the straight-ahead position:

a) the centre of a headlamp beam must be either parallel to or to the left of the longitudinal centreline of the vehicle, and

b) the centre of a main-beam headlamp beam must be either parallel to or dipping down from the horizontal, and

c) the centre of a dipped-beam headlamp beam must dip at an angle specified by the vehicle or lamp manufacturer, or:

i. 3–3.5% for a symmetric beam pattern, or

ii. 1–1.5% for an asymmetric beam pattern where the centre of the light source is less than 0.8 m from the ground, or

iii. 1–2% for an asymmetric beam pattern where the centre of the light source is 0.8–1.2 m from the ground, or

iv. 2–2.5% for an asymmetric beam pattern where the centre of the light source is above 1.2 m from the ground.

21. The dipped-beam headlamps must illuminate the road ahead for 50 m in normal darkness.

22. Where a headlamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

23. A device fitted to a vehicle that allows the headlamps to flash must:

a) make the headlamps flash alternately at a frequency of 1–2 Hertz, and

b) incorporate equipment that indicates to the driver that the device is activated.

24. A headlamp must be fitted with a light source that is specified by the vehicle manufacturer or the headlamp manufacturer.

Modifications (Note 4)

25. A headlamp that is affected by a modification must meet equipment, condition and performance requirements.

Page amended **1 April 2021** (see **amendment details**).

4-2 Front and rear fog lamps

Reasons for rejection

Permitted equipment

1. A group M or N vehicle is fitted with:

a) only one front fog lamp, or

b) more than one pair of front fog lamps.

2. A vehicle of class LE is fitted with more than two front fog lamps.

3. A vehicle is fitted with more than two rear fog lamps.

4. A retrofitted pair of fog lamps is not fitted:

a) symmetrically, or

b) as far towards each side of the vehicle as is practicable, or

c) positioned higher than the dipped-beam headlamps.

Condition

(see Note 3)

5. A lamp is insecure or contains moisture in the form of large droplets, runs or puddles .

6. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

7. A reflector is damaged or has deteriorated so that light output is reduced.

8. A fog lamp warning device, if fitted, is obscured from the driver's vision.

Performance

9. When switched on, a front fog lamp does not operate (Note 5).

10. When switched on, a front fog lamp emits light that:

a) is not projected to the front, or

b) produces an incorrect beam pattern (Figure 4-2-1), or

c) is not substantially white or amber to the front, or

d) is not approximately equal in colour or intensity from the other lamp in the pair, or

e) is not steady, or

f) is not bright enough to illuminate the road ahead in conditions of severely reduced visibility, eg due to modification, deterioration, dirt or an incorrect light source, or

g) is too bright, and could dazzle other road users, eg due to the fitment of an HID or LED conversion kit (Note 6) or other incorrect light source , or

h) is altered, eg due to damage or modification, or

i) has a beam centre to the right of the vehicle's centreline, or

j) has a beam that is not permanently dipped, or

k) has a beam centre that dips at an angle of less than 3% (Figure 4-2-1).

11. When switched on, a rear fog lamp emits light that is:

a) not projected to the rear, or

b) not diffuse, or

c) not substantially red, or

d) not approximately equal in colour or intensity from the other lamp in a pair, or

e) of variable intensity, or

f) not bright enough to indicate the presence of the vehicle from the rear in conditions of severely reduced visibility, eg due to modification, deterioration or an incorrect light source, or

g) altered, eg due to damage or modification.

12. A fog lamp cannot be switched off from the driver's seating position.

13. Where a fog lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

14. A fog lamp warning device, if fitted, does not operate.

Note 1

Fog lamp means a high-intensity front or rear lamp designed to aid the driver or other road users in conditions of severely reduced visibility, including fog or snow, but not including clear atmospheric conditions under the hours of darkness.

Note 2

A rear fog lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Note 3

If a front fog lamp is fitted with a readily removable cover, other than a clear protective cover, this must be removed for inspection of the fog lamp.

Note 4

A vehicle originally manufactured with a front- or rear-fog-lamp arrangement that differs from what is required or permitted in this section may retain the original front or rear fog lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 5

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply, be removed from the vehicle, or be disabled so that it does not emit a light.

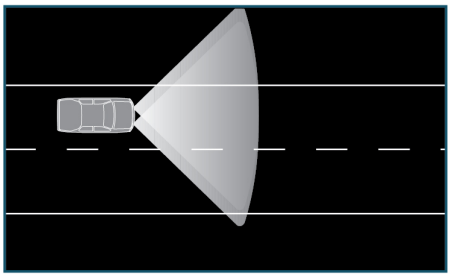
Note 6

A high-intensity discharge (HID or Xenon HID) or LED conversion kit consists of an HID or LED bulb which fits into the original fog lamp unit in place of the original bulb with no change to the lens, reflector or housing.

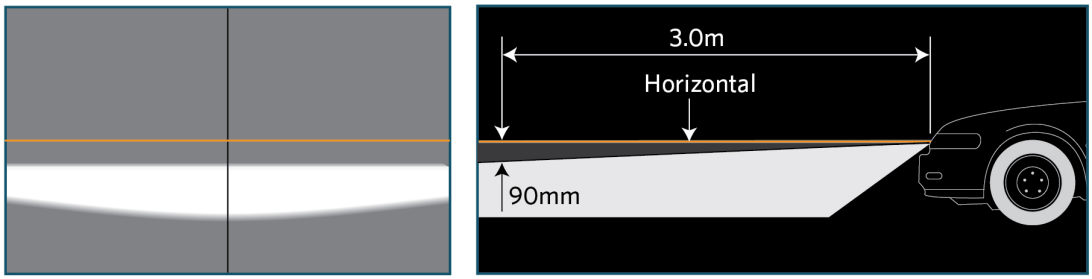
It is illegal to fit an HID or LED conversion kit to a vehicle as it brings the fog lamp out of specification by producing poor beam patterns and light that is often far too bright to be safe. The bulbs can also produce light that is noticeably blue and not the required substantially white or amber colour. Fog lamp manufacturers do not permit this modification, and these kits cannot be LVV certified.

It is permitted to replace a complete halogen fog lamp unit with a complete HID or LED fog lamp unit.

Figure 4-2-1. Front fog lamp characteristics



(a) Pattern on the road



(b) Pattern on light board

(c) Beam dip angle

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. A vehicle other than class LE: one pair of front fog lamps.

2. A vehicle of class LE: one or two front fog lamps.

3. One or two rear fog lamps.

4. A retrofitted pair of fog lamps must be symmetrically mounted as far as is practicable towards each side of the vehicle.

5. A retrofitted front fog lamp must not be positioned higher than the dipped-beam headlamps.

6. A vehicle may be fitted with a warning device that indicates that a front or rear fog lamp is in operation.

Condition

7. A front fog lamp must be in sound condition.

8. A rear fog lamp must be in sound condition if it emits a light.

Performance

9. A fog lamp must operate in a way that is appropriate for the lamp and the vehicle.

10. A fog lamp must emit a steady light.

11. A front fog lamp must provide sufficient light output to illuminate the road ahead in conditions of severely reduced visibility.

12. A rear fog lamp must provide sufficient light output to indicate the presence of the vehicle on the road in conditions of severely reduced visibility.

13. The light emitted from a front fog lamp must be substantially white or amber.

14. The light emitted from a rear fog lamp must be diffuse and substantially red in colour.

15. A pair of fog lamps must emit light that is approximately equal in colour and intensity.

16. The centre of a front fog lamp beam must be parallel to or to the left of the longitudinal centreline of the vehicle.

17. The centre of a front fog lamp beam must be permanently dipped at an angle of at least 3%.

18. A fog lamp must be able to be turned off from the driver's seating position.

19. A front or rear fog lamp warning device must be in good working order.

20. Where a fog lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

22. A fog lamp that is affected by a modification:

a) must meet equipment, condition and performance requirements, and

b) does not require LVV specialist certification.

Page amended **1 April 2024** (see **amendment details**).

4-3 Cornering lamps

Reasons for rejection

Permitted equipment

1. A vehicle is fitted with:

a) only one lamp, or

b) more than one pair of lamps, or

c) a lamp that either:

i. was not originally fitted by the vehicle manufacturer, or

ii. is not fitted in the original position.

Condition

2. A lamp is insecure.

3. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

4. A lamp's reflector is damaged or has deteriorated so that light output is reduced.

Performance

5. When activated by switching on the direction indicator lamp or by turning the steering wheel, a cornering lamp:

    a) does not operate, or

    b) does not project in the direction of the turn.

6. A cornering lamp emits light that is:

    a) not substantially white or amber, or

    b) not approximately equal in colour or intensity from the other lamp in the pair, or

    c) not steady, or

    d) not bright enough to illuminate the road ahead in the direction of the turn, eg due to modification, deterioration, dirt or or an incorrect light source, or

    e) too bright causing dazzle to other road users, eg due to an incorrect light source or misalignment, or

    f) altered, eg due to damage or modification.

7. Where a cornering lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

Note 1

Cornering lamp means a lamp designed to emit light at the front of a vehicle to supplement the vehicle's headlamps by illuminating the road ahead in the direction of the turn.

Note 2

An **original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 3

A vehicle originally manufactured with a cornering lamp arrangement that differs from what is required or permitted in this section may retain the original cornering lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 4

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be disabled so that it does not emit a light.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Permitted equipment

1. One pair of cornering lamps fitted as OE.

Condition

2. A cornering lamp must be in sound condition.

Performance

3. A cornering lamp must operate in a way that is appropriate for the lamp and the vehicle.

4. A cornering lamp must emit light that is substantially white or amber.

5. A pair of cornering lamps must emit light that is approximately equal in colour and intensity.

6. A cornering lamp must emit a steady light.

7. A cornering lamp must provide sufficient light output to illuminate the road ahead in the direction of the turn.

8. A cornering lamp must be correctly aligned.

9. Where a cornering lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

10. A cornering lamp that is affected by a modification:

    a) must meet equipment, condition and performance requirements, and

    b) does not require LVV specialist certification.

Page amended **1 December 2016** (see **amendment details**).

4-4 Daytime running lamps

Reasons for rejection

Permitted equipment

1. A vehicle other than class LE is fitted with:

    a) only one lamp, or

    b) more than one pair of lamps.

2. A vehicle of class LE is fitted with more than two lamps.

3. A lamp is fitted in a position other than at the front of the vehicle.

4. A retrofitted lamp is not:

    a) symmetrically mounted, or

    b) mounted as far towards each side of the vehicle as is practicable.

Condition

5. A lamp is insecure.

6. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

7. A lamp's reflector is damaged or has deteriorated so that light output is reduced.

Performance

8. When switched on, a daytime running lamp does not operate (Note 4).

9. When switched on, a daytime running lamp emits light that is:

    a) projected in a direction other than to the front, or

    b) not substantially white or amber, or

    c) not approximately equal in colour or intensity from the other lamp in the pair, or

    d) not steady, or

    e) not bright enough to make the vehicle more easily seen during the daytime, eg due to modification, deterioration, dirt or or an incorrect light source, or

    f) too bright, causing significant dazzle to other road users, eg due to an incorrect light source, or

    g) altered, eg due to damage or modification.

10. Where a daytime running lamp comprises an array of light sources, fewer than 75% of these operate.

11. A daytime running lamp continues to operate when the headlamps or fog lamps are switched on.

Note 1

Daytime running lamp means a lamp designed to emit a low-intensity light forward of a vehicle to make it more easily seen in the daytime.

Note 2

A vehicle originally manufactured with a daytime running lamp arrangement that differs from what is required or permitted in this section may retain the original daytime running lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 3

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Note 4

Some vehicles are equipped with OE or after-market daytime running lamps (DRLs) that also incorporate position lamp and direction indicator lamp functions. When the DRLs are on (when headlamps are off), and an indicator lamp is activated, the corresponding DRL is temporarily extinguished or dimmed. When the position lamps are on and an indicator lamp is activated, the corresponding position lamp may remain lit.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Permitted equipment

1. A vehicle other than class LE may have: one pair of daytime running lamps fitted to the front of the vehicle.

2. A vehicle of class LE may have one or two daytime running lamps fitted to the front of the vehicle.

3. A retrofitted lamp must be symmetrically mounted as far towards each side of the vehicle as is practicable.

Condition

4. A daytime running lamp must be in sound condition.

Performance

5. A daytime running lamp must operate in a way that is appropriate for the lamp and the vehicle.

6. A daytime running lamp must emit light that is substantially white or amber.

7. A pair of daytime running lamps must emit light that is of approximately equal colour and intensity.

8. A daytime running lamp must emit a steady light.

9. A daytime running lamp must provide sufficient light output to make the vehicle more easily seen during the daytime.

10. A daytime running lamp must be correctly aligned.

11. A daytime running lamp must not operate when a front fog lamp or a headlamp is in use.

12. Where a daytime running lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

13. A daytime running lamp that is affected by a modification:

    a) must meet equipment, condition and performance requirements, and

    b) does not require LVV specialist certification.

Page amended **1 December 2016** (see **amendment details**).

4-5 Direction indicator lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle of class MD3, MD4, ME, NB, or NC first registered on or after 1 January 1978 that exceeds 9.2m in length:

a) is not fitted with one side-facing direction indicator lamp on each side, at or near the front of the vehicle, or

b) is fitted with more than two side-facing direction indicator lamps on either side.

3. A retrofitted side-facing direction indicator lamp is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle).

4. A heavy vehicle is fitted at the rear with:

a) only one top-mounted lamp, or

b) more than one pair of top-mounted lamps, or

c) top-mounted lamps that are not mounted symmetrically as close as is practicable to the top corners of the bodywork.

5. A pair of forward-facing or rearward-facing direction indicator lamps (other than top-mounted lamps):

a) in the case of a vehicle with one pair, is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practical due to the shape of the bodywork of the vehicle), or

b) in the case of a vehicle with two pairs:

i. the lower pair is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practical due to the shape of the bodywork of the vehicle), or

ii. the other pair is fitted at a height from the ground exceeding 2.1m.

6. A heavy vehicle is fitted with top-mounted lamps at the front of the vehicle.

Condition

7. Refer to **general vehicle pages**.

Performance

8. Refer to **general vehicle pages**.

9. A mandatory side-facing direction indicator lamp is not visible from the side of the vehicle (Figure 4-5-2):

a) through an angle of 60° above and below a horizontal plane passing through the lamp, or

b) at least between an angle of 30° and 80° rearward of a vertical plane that is at right angles to the longitudinal centreline of the vehicle and passing through the lamp.

Note 1 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Direction indicator lamp means a lamp designed to emit a flashing light to signal the intention of the driver to change the direction of the vehicle to the right or to the left.

Note 2

A permitted (ie non-mandatory) rear or a non-OE side-facing direction indicator lamp that does not comply with equipment, condition and performance requirements must be made to comply or disabled so that it does not emit a light.

Note 3

An **original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 4

Vehicles first registered in New Zealand before 27 February 2005 may have rear direction indicator lamps that also function as reversing lamps.

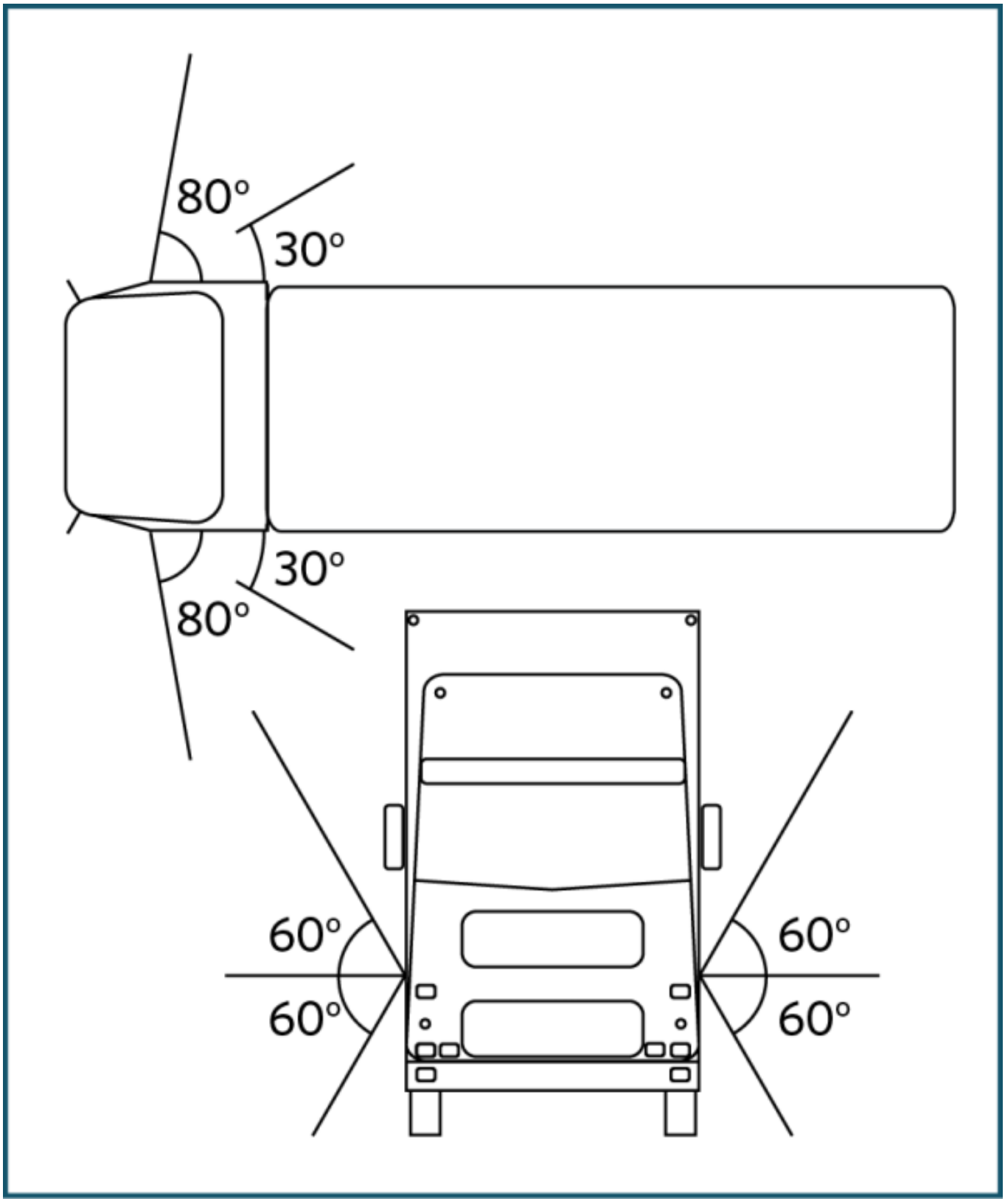
Note 5

A vehicle originally manufactured with a direction indicator lamp arrangement that differs from what is required or permitted in this section may retain the original direction indicator lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Note 6

A forward-facing permitted lamp that does not comply with the equipment, condition and performance requirements must be made to comply or be removed from the vehicle.

Figure 4-5-2. Direction indicator beam angles



Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle of class MD3, MD4, ME, NB, or NC first registered on or after 1 January 1978 that exceeds 9.2m in length must be fitted with one or two side-facing direction indicator lamps on each side, at or near the front of the vehicle.

3. A retrofitted side-facing direction indicator lamp must be mounted at a height not exceeding 1.5m, or if this is not practicable due to the shape of the bodywork of the vehicle, not exceeding 2.1m.

4. A heavy vehicle may be fitted with an additional pair of direction indicator lamps at the rear of the vehicle that must be symmetrically mounted as near the top corners of the bodywork of the vehicle as is practicable (top-mounted lamps).

5. Forward-facing or rearward-facing direction indicator lamps (excluding top-mounted lamps) may be mounted as follows:

a) one pair at a height from the ground not exceeding 1.5m, or if this is not practicable due to the shape of the bodywork of the vehicle, not exceeding 2.1m, and

b) a second pair at a height from the ground not exceeding 2.1m.

Condition

6. Refer to **general vehicle pages**.

Performance

7. Refer to **general vehicle pages**.

8. A mandatory side-facing direction indicator must be visible from the side of the vehicle:

a) through an angle of 60° above and below the horizontal plane passing through the lamp, and

b) at least between an angle of 30° and 80° rearward of a vertical plane that is at right angles to the longitudinal centreline of the vehicle and passing through the lamp.

Modifications

9. Refer to **general vehicle pages**.

Page amended **2 December 2019** (see **amendment details**).

4-6 Forward-facing position lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle is fitted at the front with:

a) only one top-mounted lamp, or

b) more than one pair of top-mounted lamps, or

c) top-mounted lamps that are not mounted as close as is practicable to the top corners of the bodywork.

Condition

3. Refer to **general vehicle pages**.

Performance

4. Refer to **general vehicle pages**.

Note 1

The following total numbers of position lamps may generally be fitted to the front or rear of a vehicle:

Front of vehicle:

a) one pair of forward-facing position lamps below 1.5 m (usually the OE lamps)

b) one pair of forward-facing position lamps at the top corners

c) two cab roof lamps

d) 10 end-outline marker lamps fitted elsewhere on the outline of the vehicle or on the cab roof (for vehicles first

registered in New Zealand before 27 February 2005 there is no restriction on the number of forward-facing end-outline marker lamps that may be fitted).

Rear of vehicle:

a) two pairs of rearward-facing position lamps, one pair below 1.5 m and a second pair below 2.1 m, fitted symmetrically as

far as possible towards the extremities

b) one pair of rearward-facing position lamps at the top corners

c) six end-outline marker lamps elsewhere on the outline of the vehicle.

Note 2 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Position lamp means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

a) a forward-facing position lamp (front side lamp), or

b) a rearward-facing position lamp (rear side lamp or tail lamp), or

c) a side-marker lamp, or

d) an end-outline marker lamp (including cab roof lamp).

Note 3

A permitted forward-facing position lamp, fitted to a class NC vehicle first registered in New Zealand before 27 February 2005, that does not comply with condition and performance requirements must be made to comply or be disabled so that it does not emit a light. All other permitted forward-facing position lamps that do not comply with requirements must be made to comply or be removed from the vehicle.

Note 4

An **original equipment (OE) lamp** is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps, including those fitted by the body builder, are considered retrofitted (ie non-OE).

Note 5

A vehicle originally manufactured with a position lamp arrangement that differs from what is required or permitted in this section may retain the original position lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer. This does not include lamps fitted by a body builder.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Permitted equipment

1. A heavy vehicle may be fitted with an additional pair of forward-facing position lamps that must be symmetrically mounted as near the top corners of the bodywork of the vehicle as is practicable (top-mounted lamps).

Condition

2. Refer to **general vehicle pages**.

Performance

3. Refer to **general vehicle pages**.

Modifications

4. Refer to **general vehicle pages**.

Page amended **2 December 2019** (see **amendment details**).

4-7 Rearward-facing position lamps

Reasons for rejection

1. Refer to **general vehicle pages**.

2. A heavy vehicle is fitted at the rear with:

    a) only one top-mounted lamp, or

    b) more than one pair of top-mounted lamps, or

    c) top-mounted lamps that are not mounted as close as is practicable to the top corners of the bodywork.

3. A rearward-facing position lamp (other than top-mounted lamps):

    a) in the case of a vehicle with one or one pair, is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

    b) in the case of a vehicle with two pairs:

        i. the lower pair is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

        ii. the other pair is fitted at a height from the ground exceeding 2.1m.

Condition

4. Refer to **general vehicle pages**.

Performance

5. Refer to **general vehicle pages**.

Note 1 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Position lamp means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

a) a forward-facing position lamp (front side lamp), or

b) a rearward-facing position lamp (rear side lamp or tail lamp), or

c) a side-marker lamp, or

d) an end-outline marker lamp (including cab roof lamp).

Note 2

A permitted rearward-facing position lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Note 3

An original equipment (OE) lamp is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 4

A vehicle originally manufactured with a position lamp arrangement that differs from what is required or permitted in this section may retain the original position lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer. This does not include lamps fitted by a body builder.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Permitted equipment

1. A heavy vehicle may be fitted with an additional pair of rearward-facing position lamps that must be symmetrically mounted as near the top corners of the bodywork of the vehicle as is practicable (top-mounted lamps).

2. Rearward-facing position lamps (excluding top-mounted lamps) may be mounted as follows:

    a) one lamp or one pair at a height from the ground not exceeding 1.5m, or if this is not practicable due to the shape of the bodywork of the vehicle, not exceeding 2.1m, and

    b) a second pair at a height from the ground not exceeding 2.1m.

Condition

3. Refer to **general vehicle pages**.

Performance

4. Refer to **general vehicle pages**.

Modifications

5. Refer to **general vehicle pages**.

Page amended **2 December 2019** (see **amendment details**).

4-8 Side-marker lamps

Reasons for rejection

Permitted equipment

1. A side-marker lamp is not positioned so that it gives an indication of the vehicle's dimensions.

Condition

2. A lamp is insecure.

3. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

4. A reflector is damaged or has deteriorated so that light output is reduced.

Performance

5. When switched on, a side-marker lamp emits a light that:

a) is not substantially white or amber to the front(for a vehicle manufactured before January 2006), or

b)is not substantially amber to the front (for a vehicle manufactured on or after January 2006), or

c) is not substantially red or amber to the rear, or

d) is not diffuse, or

e) is not approximately of the same colour and intensity on each side of the vehicle, or

f) does not remain steadily illuminated, or

g) is not bright enough to produce light that is visible from 100m in normal daylight and from 200m in normal darkness, eg due to modification, deterioration, dirt or an incorrect light source.

6. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

Modifications

7. A side-marker lamp that is affected by a modification must meet equipment, condition and performance requirements.

Note 1 Definitions

Side-marker lamp means a position lamp designed to be fitted to the side of a vehicle or its load.

Position lamp means a low-intensity lamp that is designed to indicate to road users the presence and dimensions of a vehicle, being:

a) a forward-facing position lamp (front side lamp), or

b) a rearward-facing position lamp (rear side lamp or tail lamp), or

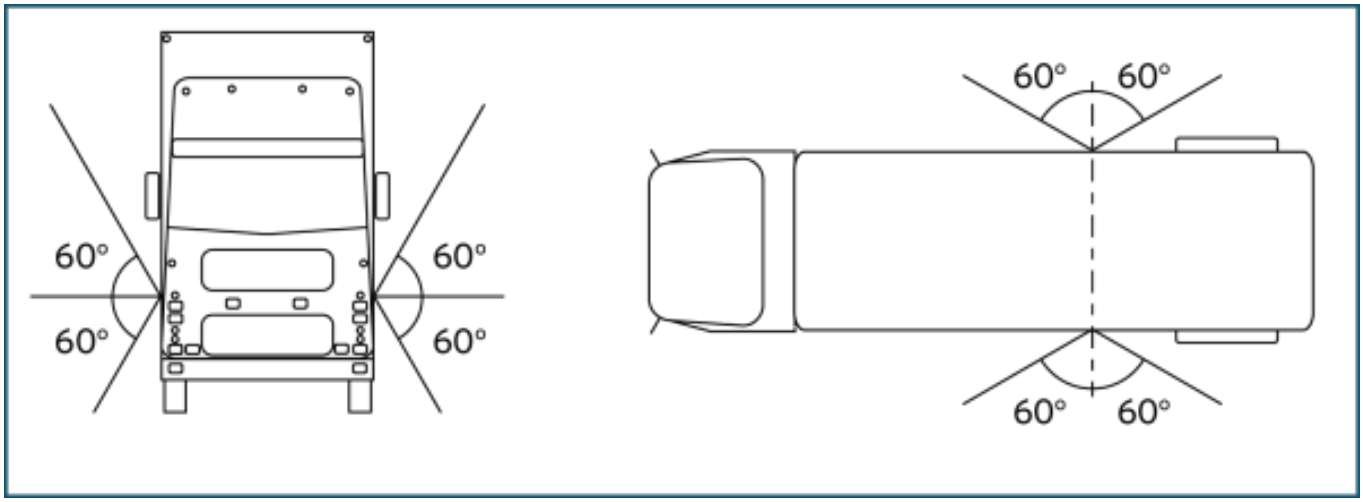
c) a side-marker lamp, or

d) an end-outline marker lamp (including cab roof lamp).

Note 2

A permitted side-marker lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Figure 4-8-1. Visibility angles for side marker lamps



Summary of legislation

Permitted equipment

1. A heavy vehicle may be fitted with one or more side-marker lamps.

2. A side-marker lamp must be positioned so that it gives an indication of the vehicle's dimensions.

Condition

3. A side-marker lamp must:

a) be in sound condition, and

b) not be obscured (if a mandatory lamp).

Performance

4. A side-marker lamp must operate in a way that is appropriate for the lamp and the vehicle.

5. A lamp must emit a light that is:

a) diffuse, and

b) substantially white or amber to the front (for a vehicle manufactured before January 2006), or

c) substantially amber to the front (for a vehicle manufactured on or after January 2006), or

d) substantially red or amber to the rear.

6. A lamp must emit a steady light.

7. A side-marker lamp must provide sufficient light output to indicate to other road users the presence and dimensions of the vehicle.

8. A side-marker lamp must emit a light that is visible from a distance of 100m in daylight and 200m during the hours of darkness.

9. Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

10. A side-marker lamp that is affected by a modification must meet equipment, condition and performance requirements.

Page amended **14 October 2013** (see **amendment details**).

4-9 End-outline marker lamps

Reasons for rejection

Mandatory, permitted and prohibited equipment

1. A vehicle listed in Table 4-9-1:

a) is not fitted with the lamps required in Table 4-9-1, or

b) is fitted with lamps that exceed the numbers permitted in Table 4-9-1.

2. A vehicle not listed in Table 4-9-1 is fitted with end-outline marker lamps.

3. An end-outline marker lamp is not positioned so that it gives an indication of the vehicle's dimensions, that is lamps, other than cab roof lamps, are fitted other than around the outline of the vehicle (Note 2).

Condition

4. A lamp is insecure or, if a mandatory lamp, obscured.

5. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

6. A reflector is damaged or has deteriorated so that light output is reduced.

Performance

7. When switched on, a mandatory or a forward-facing end-outline marker lamp does not operate (Note 3).

8. When switched on, an end-outline marker lamp emits a light that is:

a) not substantially white or amber to the front, or

b) not substantially red to the rear, or

c) not diffuse, or

d) not projected to the front or rear, or

e) not approximately of the same colour or intensity as the other lamp if fitted in a pair, or

f) not steady, or

g) not bright enough to indicate the presence and dimensions of the vehicle to other road users.

9. A mandatory cab roof lamp is not bright enough to produce light that is visible from 100m in normal daylight and from 200m in normal darkness, eg due to modification, deterioration or an incorrect light source.

10. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

Note 1 Definitions

For vehicles manufactured before 1/5/2011, the following total numbers of position lamps may generally be fitted to the front or rear of a vehicle:

Front of vehicle:

a) one pair of forward-facing position lamps below 1.5m (usually the OE lamps)

b) one pair of forward-facing position lamps at the top corners

c) two cab roof lamps

d) 10 end-outline marker lamps fitted elsewhere on the outline of the vehicle or on the cab roof (for vehicles first registered in New Zealand before 27 February 2005 there is no restriction on the number of forward-facing end-outline marker lamps that may be fitted).

Rear of vehicle:

a) two pairs of rearward-facing position lamps, one pair below 1.5m and a second pair below 2.1m, fitted symmetrically as far as possible towards the extremities

b) one pair of rearward-facing position lamps at the top corners

c) six end-outline marker lamps elsewhere on the outline of the vehicle.

Note 2

End-outline marker lamp means a position lamp designed to be fitted near the outer extremity of the vehicle in addition to forward-facing and rearward-facing position lamps, and includes a cab roof lamp.

Position lamp means a low-intensity lamp that is designed to indicate the presence and dimensions of a vehicle to other road users, being:

a) a forward-facing position lamp (front side or park lamp), or

b) a rearward-facing position lamp (rear side lamp or tail lamp), or

c) a side-marker lamp, or

d) an end-outline marker lamp (including cab roof lamp).

Note 3

A rearward-facing end-outline marker lamp, or a forward-facing end-outline marker lamp fitted to a class NC vehicle first registered in New Zealand before 27 February 2005, that does not comply with the equipment, condition and performance requirements, must be made to comply or be disabled so that it does not emit a light. All other permitted forward-facing end-outline marker lamps must be made to comply or be fully removed from the vehicle.

Note 4

A vehicle originally manufactured with an end-outline marker lamp arrangement that differs from what is required or permitted in this section may retain the original end-outline marker lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer. Lamps visible from the front and from the rear on the same side of the vehicle may be combined into one device.

Note 5

Vehicle manufacturer means the original vehicle manufacturer and the final stage manufacturer in the case of certain modified vehicles (see **Technical bulletin 13: Acceptable overseas proof of modification**).

Table 4-9-1. Fitting requirements for end-outline marker lamps

If the vehicle was:	Row	Characteristics of the heavy vehicle	Front		Rear
			Mandatory lamps[1,4]	Maximum permitted lamps[2]	Maximum permitted lamps[2]
Vehicle manufactured before 1/4/2011[3]	A	• A vehicle with a GVM exceeding 11,300 kg • A vehicle with a towing connection where the vehicle combination is likely to have a total length exceeding 9.2m	2	12 (No Limit if first registered before 27/2/2005)	6
	B	A vehicle with an overall width of 1.8 m or more (other than a vehicle in row A)	Not required	6	4
Vehicle manufactured from 1/4/2011	C	A vehicle with an overall width exceeding 2.1m and with a GVM or GCM exceeding 12,000kg	2	12	6
	D	A vehicle with an overall width exceeding 2.1m (other than a vehicle in row C)	2	6	4
	E	A vehicle with an overall width of 1.8 m or more (other than a vehicle in row C or D).	Not required	6	4

[1] Vehicles in **Table 4-9-2** are not required to be fitted with mandatory lamps.

[2] Maximum permitted lamps are the maximum number of lamps allowed to be fitted, including mandatory lamps.

[3] A vehicle manufactured before 1/4/2011 also has the option of complying with the requirements applicable to vehicles manufactured from 1/4/2011.

[4] Mandatory lamps must be positioned at a height no lower than the top edge of the windscreen.

Table 4-9-2. Vehicles exempt from mandatory cab roof requirements

A vehicle fitted with a waste collection unit that incorporates front-loading container handling equipment and a cab protection shield, and which operates predominantly within 50km/h speed limit zones during daylight hours only.
A PSV used exclusively on urban routes.
A vehicle designed principally for carrying ready-mix concrete no more than 9.2m in length, and which operates predominantly in 50km/h speed limit zones.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**
- New Zealand Gazette, 12 May 1983, No. 63, page 1500
- New Zealand Gazette, 7 July 1977, No. 73, page 1893.

Mandatory, permitted and prohibited equipment

1. A vehicle listed in Table 4-9-1 must or may be fitted with end-outline marker lamps as specified in the table.

2. A vehicle not listed in Table 4-9-1 must not be fitted with end-outline marker lamps.

3. An end-outline marker lamp must be positioned so that it gives an indication of the vehicle's dimensions.

Condition

4. An end-outline marker lamp must:

a) be in sound condition, and

b) not be obscured (if a mandatory lamp).

Performance

5. An end-outline marker lamp must operate in a way that is appropriate for the lamp and the vehicle.

6. A lamp must emit a light that is:

a) diffuse, and

b) substantially white or amber to the front, and

c) substantially red to the rear.

7. A lamp must emit a steady light.

8. An end-outline marker lamp must provide sufficient light output to indicate to other road users the presence and dimensions of the vehicle.

9. A mandatory cab roof lamp must emit a light that is visible from a distance of 100m in daylight and 200m during the hours of darkness.

10. Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

11. An end-outline marker lamp that is affected by a modification must meet equipment, condition and performance requirements.

Page amended **1 November 2018** (see **amendment details**).

4-10 Stop lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle is fitted at the rear with:

a) only one top-mounted lamp, or

b) more than one pair of top-mounted lamps, or

c) top-mounted lamps that are not mounted as close as is practicable to the top corners of the bodywork.

3. A stop lamp (other than top-mounted lamps):

a) in the case of a vehicle with one or one pair, is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

b) in the case of a vehicle with two pairs:

i. the lower pair is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

ii. the other pair is fitted at a height from the ground exceeding 2.1m.

Condition

4. Refer to

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle is fitted at the rear with:

a) only one top-mounted lamp, or

b) more than one pair of top-mounted lamps, or

c) top-mounted lamps that are not mounted as close as is practicable to the top corners of the bodywork.

3. A stop lamp (other than top-mounted lamps):

a) in the case of a vehicle with one or one pair, is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

b) in the case of a vehicle with two pairs:

i. the lower pair is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

ii. the other pair is fitted at a height from the ground exceeding 2.1m.

Condition

4. Refer to **general vehicle pages**.

Performance

5. Refer to **general vehicle pages**.

Performance

5. Refer to

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. A heavy vehicle is fitted at the rear with:

a) only one top-mounted lamp, or

b) more than one pair of top-mounted lamps, or

c) top-mounted lamps that are not mounted as close as is practicable to the top corners of the bodywork.

3. A stop lamp (other than top-mounted lamps):

a) in the case of a vehicle with one or one pair, is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

b) in the case of a vehicle with two pairs:

i. the lower pair is fitted at a height from the ground exceeding 1.5m (or 2.1m where fitting below 1.5m is not practicable due to the shape of the bodywork of the vehicle), or

ii. the other pair is fitted at a height from the ground exceeding 2.1m.

Condition

4. Refer to **general vehicle pages**.

Performance

5. Refer to **general vehicle pages**.

Note 1 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Stop lamp means a lamp that is designed to operate when the service brake is activated.

Note 2

A permitted stop lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Note 3

An original equipment (OE) lamp is one that is fitted by the vehicle manufacturer in the original position, or is an equivalent replacement or aftermarket lamp suitable for the position provided by the vehicle manufacturer for that lamp. All other lamps are considered retrofitted (ie non-OE).

Note 4

A vehicle originally manufactured with a stop lamp arrangement that differs from what is required or permitted in this section may retain the original stop lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer. This does not include lamps fitted by a body builder.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Lighting 2004**.

Permitted equipment

1. A heavy vehicle may be fitted with an additional pair of stop lamps that must be symmetrically mounted as near the top corners of the bodywork of the vehicle as is practicable (top-mounted lamps).

2. Stop lamps (excluding top-mounted lamps) may be mounted as follows:

a) one lamp or one pair at a height from the ground not exceeding 1.5m, or if this is not practicable due to the shape of the bodywork of the vehicle, not exceeding 2.1m, and

b) a second pair at a height from the ground not exceeding 2.1m.

Condition

3. Refer to **general vehicle pages**.

Performance

4. Refer to **general vehicle pages**.

Modifications

5. Refer to **general vehicle pages**.

Page amended **2 December 2019** (see **amendment details**).

4-11 High-mounted stop lamps

Reasons for rejection

Mandatory and permitted equipment

1. A class MA vehicle first registered or manufactured **on or after 1 January 1990** is not fitted with one high-mounted stop lamp.

2. A vehicle is fitted with more than two high-mounted stop lamps.

3. A lamp is not fitted in a central high-mounted position.

4. A lamp fitted to a group M or N vehicle, except one that does not have a rear window, or that does not have a rear window visible from the rear, has an illuminated surface that is lower than 150mm below the bottom edge of the rear window.

5. A vehicle (eg a vintage or veteran vehicle) does not meet standard stop lamp requirements, and:

    a) does not have a valid vehicle identity card with a lighting equipment endorsement, or

    b) does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.

Condition

6. A lamp is insecure.

7. A mandatory lamp (Note 2) is obscured, or contains moisture in the form of large droplets, runs or puddles.

8. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

9. A reflector is damaged or has deteriorated so that light output is reduced.

Performance

10. When the service brake is activated:

    a) a mandatory (Note 2) lamp does not operate, or

b) a lamp does not remain steadily illuminated.

11. A lamp operates when the service brake is not activated.

12. A lamp emits a light that is not:

a) substantially red, or

b) diffuse, or

c) projected to the rear, or

d) bright enough to be visible from 100m in normal daylight, eg due to modification, deterioration, dirt or an incorrect light source

13. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

Note 1 Definitions

High-mounted stop lamp means a stop lamp that is designed to be fitted in a central, high-mounted position at the rear of a vehicle.

Stop lamp means a lamp that is designed to operate when the service brake is activated.

Note 2

Mandatory lamp – the vehicle must have one high-mounted stop lamp that meets the equipment, condition and performance requirements. Any other high-mounted stop lamp is a permitted lamp. The permitted lamp is not required to operate, but if it does operate, it must meet the equipment, condition and performance requirements, although it may be obscured.

Note 3

A vehicle originally manufactured with a high-mounted stop lamp arrangement that differs from what is required or permitted in this section may retain the original high-mounted stop lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory and permitted equipment

1. A class MA vehicle first registered or manufactured **on or after 1 January 1990** must be fitted with one or two high-mounted stop lamps.

2. Any other vehicle may be fitted with one or two high-mounted stop lamps.

3. A lamp on a group M or N vehicle must be fitted in a central high-mounted position at the rear of the vehicle.

4. No part of a lamp's illuminated surface must be lower than 150mm below the bottom edge of the rear window, except where there is no rear window fitted or visible from behind the vehicle.

5. A vehicle (eg a vintage or veteran vehicle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:

a) the vehicle has a valid vehicle identity card with a lighting equipment endorsement, and

b) the vehicle meets the conditions of that endorsement.

Condition

6. A high-mounted stop lamp must be in good condition.

7. At least one high-mounted stop lamp must not be obscured.

Performance

8. A high-mounted stop lamp must operate in a way that is appropriate for the lamp and the vehicle.

9. The light emitted from a high-mounted stop lamp must be diffuse light that is substantially red.

10. A high-mounted stop lamp must emit a steady light.

11. At least one unobscured lamp must operate when the vehicle's service brakes are activated.

12. Where a high-mounted stop lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

13. An overlay has been applied that reduces or distorts the light emitted from the lamp (eg a tinted cover).

14. A high-mounted stop lamp that is affected by a modification:

a) must meet equipment, condition and performance requirements, and

b) does not require LVV specialist certification.

Page amended **2 December 2019** (see **amendment details**).

4-12 Rear-reg.-plate illumination lamps

Reasons for rejection

Mandatory equipment

1. A vehicle is not fitted with at least one rear-registration-plate illumination lamp.

2. A vehicle (eg a vintage or veteran vehicle) does not meet standard rear-registration-plate illumination lamp requirements, and:

a) does not have a valid vehicle identity card with a lighting equipment endorsement, or

b) does not meet the conditions of the lighting equipment endorsement in its vehicle identity card.

Condition

3. A lamp is insecure.

4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

5. A reflector, or lens, is damaged or has deteriorated so that light output is reduced.

Performance

6. The lamp emits a light that is not:

a) substantially white, or

b) steady, or

c) diffuse.

7. The lamp does not illuminate the registration plate (eg either the lamp or plate have been moved, or the lamps orientation has been changed).

8. The light source of a lamp is visible from the rear of the vehicle.

9. An overlay has been applied that reduces or distorts the light emitted from the lamp (eg a tinted cover).

Note 1 Definitions

Rear-registration-plate illumination lamp means a lamp designed to illuminate the rear registration plate of a vehicle.

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Note 2

A vehicle originally manufactured with a rear-registration-plate illumination lamp arrangement that differs from what is required or permitted in this section may retain the original rear-registration-plate illumination lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory equipment

1. At least one rear-registration-plate illumination lamp.

2. A vehicle (eg a vintage or veteran vehicle) manufactured without lamps, or with lamps that cannot meet specified requirements, may obtain a WoF if:

a) the vehicle has a valid vehicle identity card with a lighting equipment endorsement, and

b) the vehicle meets the conditions of that endorsement.

Performance

3. A rear-registration-plate illumination lamp must operate in a way that is appropriate for the lamp and the vehicle.

4. A lamp must emit a diffuse light that is substantially white.

5. A rear-registration-plate illumination lamp must emit a steady light.

6. The light source of the lamp must not be visible from the rear of the vehicle.

7. A lamp must illuminate the figures and letters of the plate so that they are visible from 20m during normal darkness.

8. Where a lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

9. A rear-registration-plate illumination lamp that is affected by a modification must meet equipment, condition and performance requirements.

Page amended **1 October 2021** (see **amendment details**).

4-13 Rear-reflectors

Mandatory equipment

1. Refer to **general vehicle pages**.

2. Rearward-facing retroreflectors fitted to a vehicle of NB or NC class do not meet one of the fitment requirements in Figure 4-13-1.

Condition

3. Refer to **general vehicle pages**.

Performance

4. A rearward-facing reflector on a vehicle reflects white light shining on it as anything other than red light (this does not apply to reflective material such as conspicuity/reflective tape).

5. Refer to **general vehicle pages**.

Definitions

Incorporated retroreflector means a retroreflector with a light reflecting surface that is combined with other lamps in a common lamp body. See Figure 4-13-3

Single retroreflector means a retroreflector with an independent light reflecting surface and body. See Figure 4-13-4

Figure 4-13-2. Reflector vs reflective material

Figure 4-13-1. Acceptable fitment standards

Installation standards (Lighting Rule)	9.3(5)(a) Single retroreflectors must be 30cm^2 or more	OR	9.3(5)(b) Incorporated retroreflectors within a lamp
Distance from extremity	150mm		400mm
Maximum height	2100mm (impractical body shape)		1500mm (impractical body shape)
	1500mm (Standard body shape)		1200mm (Standard body shape)
Minimum height	250mm		

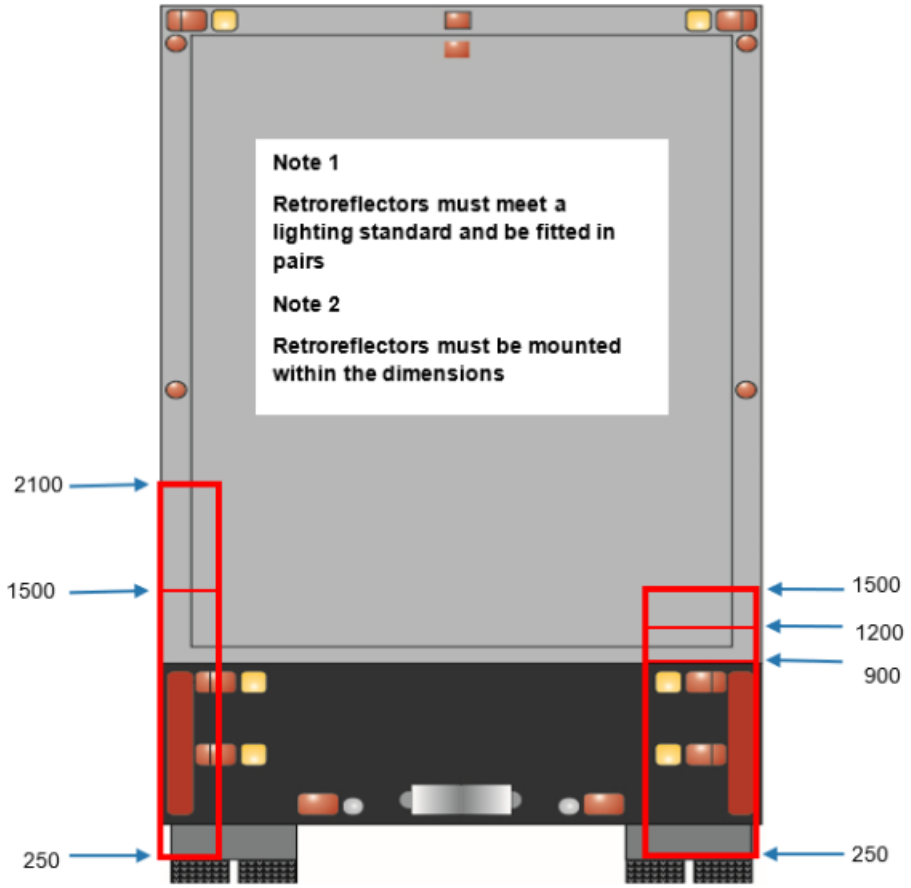
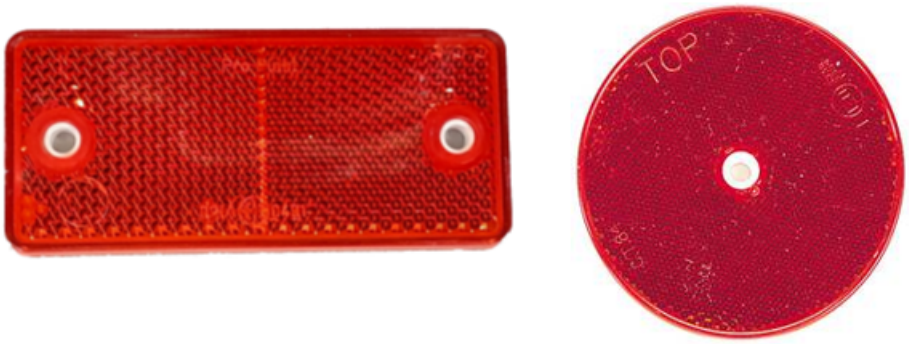


Figure 4-13-3. Examples of ADR, UN/ECE, and JIS combination lights with built-in reflectors

Figure 4-13-4. Examples of single retroreflector



Note 1 Definitions

Reflector means a distinct item of lighting equipment that is designed to reflect incident light back towards the light source, but does not include reflective material (such as reflective tape).

Reflective material means any material that is designed to reflect incident light back towards the light source and includes reflective tape, but does not include a reflector.

Note 2

A vehicle originally manufactured with a rear reflector arrangement that differs from what is required or permitted in this section may retain the original rear reflectors provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory and permitted equipment

1. A group M or N vehicle must be fitted with at least one pair of rearward-facing reflectors at a height from the ground not exceeding 1.5m, or if this is not practicable due to the shape of the bodywork of the vehicle, not exceeding 2.1m.

2. A class LE vehicle must be fitted with at least one rearward-facing reflector that reflects light that is visible from 100m.

3. A rearward-facing reflector must be positioned to the rear of the vehicle.

4. A reflector must be of an area that allows it to reflect light to improve the visibility of the vehicle to other road users, but it must not cause them undue dazzle or discomfort.

5. A retrofitted pair of reflectors must be symmetrically mounted as far towards each side of the vehicle as is practicable.

Condition

6. A mandatory reflector must be in good condition and not be obscured.

Performance

7. A reflector must operate in a way that is appropriate for the reflector and the vehicle.

8. A reflector must reflect white light as substantially red light.

9. A reflector must provide sufficient light reflection to fulfil its intended purpose.

Modifications

10. A rear reflector that is affected by a modification:

a) must meet equipment, condition and performance requirements, and

b) does not require LVV specialist certification.

Page amended **2 December 2019** (see **amendment details**).

4-14 Reversing lamps

Reasons for rejection

Permitted equipment

(see Note 2)

1. A vehicle is fitted with more than two reversing lamps at the rear of the vehicle.

2. A retrofitted pair of reversing lamps is not:

a) symmetrically mounted, or

b) mounted as far towards each side of the vehicle as is practicable.

Condition

(see Note 2)

3. A lamp is insecure.

4. A lens is missing, or has a hole, crack or other damage that allows moisture or dirt to enter.

5. A reflector is damaged or has deteriorated so that light output is reduced.

Performance

(see Note 2)

6. A lamp controlled by gear engagement continues to display a light to the rear when the reverse gear is disengaged.

7. A lamp controlled by a manual switch continues to display a light to the rear while the headlamps are switched on.

8. When engaged, a lamp emits light that is not:

    a) substantially white (Note 3), or

    b) steady, or

    c) diffuse or a dipped beam.

9. Where a lamp comprises an array of light sources (eg LEDs), fewer than 75% of these operate.

Note 1 Definitions

Reversing lamp means a lamp designed to illuminate the area behind the vehicle while it is reversing and to warn other road users that the vehicle is reversing or about to reverse.

Note 2

A reversing lamp that does not comply with equipment, condition and performance requirements must be made to comply or be disabled so that it does not emit a light.

Note 3

Vehicles first registered in New Zealand before 27 February 2005 were allowed to use rear indicator lamps as reversing lamps. Although the light emitted is amber rather than white, this arrangement is still permitted for these vehicles.

Note 4

A vehicle originally manufactured with a reversing lamp arrangement that differs from what is required or permitted in this section may retain the original reversing lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. One or two reversing lamps fitted at the rear of the vehicle.

2. A retrofitted pair of reversing lamps must be symmetrically mounted as far towards each side of the vehicle as is practicable.

Condition

3. A reversing lamp must be in good condition.

Performance

4. A reversing lamp must operate in a way that is appropriate for the lamp and the vehicle.

5. A reversing lamp, when operated, must emit a diffuse light or a dipped beam of light that is substantially white (Note 3).

6. A reversing lamp must emit a steady light.

7. A reversing lamp may operate only when the reverse gear is engaged or the headlamps are turned off.

8. Where a reversing lamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

Modifications

9. A reversing lamp that is affected by a modification:

a) must meet equipment, condition and performance requirements, and

b) does not require LVV specialist certification.

4-15 Other lighting

Reasons for rejection

Permitted equipment

1. A cosmetic lamp (ie one not listed in Table 4-15-1) that is fitted to a vehicle:

a) has a part of its light-emitting surface positioned within 250mm of any mandatory lamp, or

b) is not mounted in a fixed position, or

c) is positioned so that its light-emitting surface is visible within the shaded areas in Figure 4-15-1.

2. A work lamp that is fitted to a vehicle is wired in such a way that the switch or circuit for any mandatory or optional lamp controls it.

3. Retroreflective material fitted within 150mm of a required lamp or retroreflector on a heavy motor vehicle:

a) does not comply with an approved vehicle standard for retroreflective material, or

b) is not fitted in accordance with any other enactment relating to retroreflective material on vehicles.

- **Note:** does not apply to retroreflective material fitted to a heavy motor vehicle that is an emergency vehicle manufactured before 1 January 2006 and that was registered before 1 June 2019.

Performance

4. When switched on, a cosmetic lamp with a light-emitting surface not visible within the shaded areas in Figure 4-15-1 emits a light that:

a) is not diffuse, or

b) flashes or otherwise varies in intensity or colour, or

c) revolves, rotates or otherwise moves, or

d) is too bright and likely to dazzle other road users, or

e) is likely to cause confusion about the orientation of the vehicle, or

f) is red when seen directly from the front, or

g) is not red or amber when seen directly from the rear.

5. A forward-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light.

6. A side-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light.

Note 1

A rear or side cosmetic lamp that does not comply with requirements for condition or performance must be made to comply, or be disabled so that it does not emit a light.

Note 2

A forward-facing cosmetic lamp fitted to a class NC vehicle first registered in New Zealand before 27 February 2005 that does not comply with the equipment, condition and performance requirements, must be made to comply or be disabled so that it does not emit a light. All other forward-facing cosmetic lamps that do not comply must be made to comply or be removed from the vehicle.

Note 3 Definitions

Lamp means a device designed to emit light, and includes an array of separate light sources that appear as a continuous illuminated surface.

Work lamp means a high-intensity lamp that is not necessary for the operation of the vehicle but is designed to illuminate the area or scene and include scene lamps, spot lamps and alley lamps.

Scene lamp means a work lamp designed to provide a fixed or movable beam of light to illuminate the area around the vehicle or the vehicle itself.

Alley lamp means a work lamp designed primarily to provide a fixed or movable beam of light to the side of the vehicle it is fitted to.

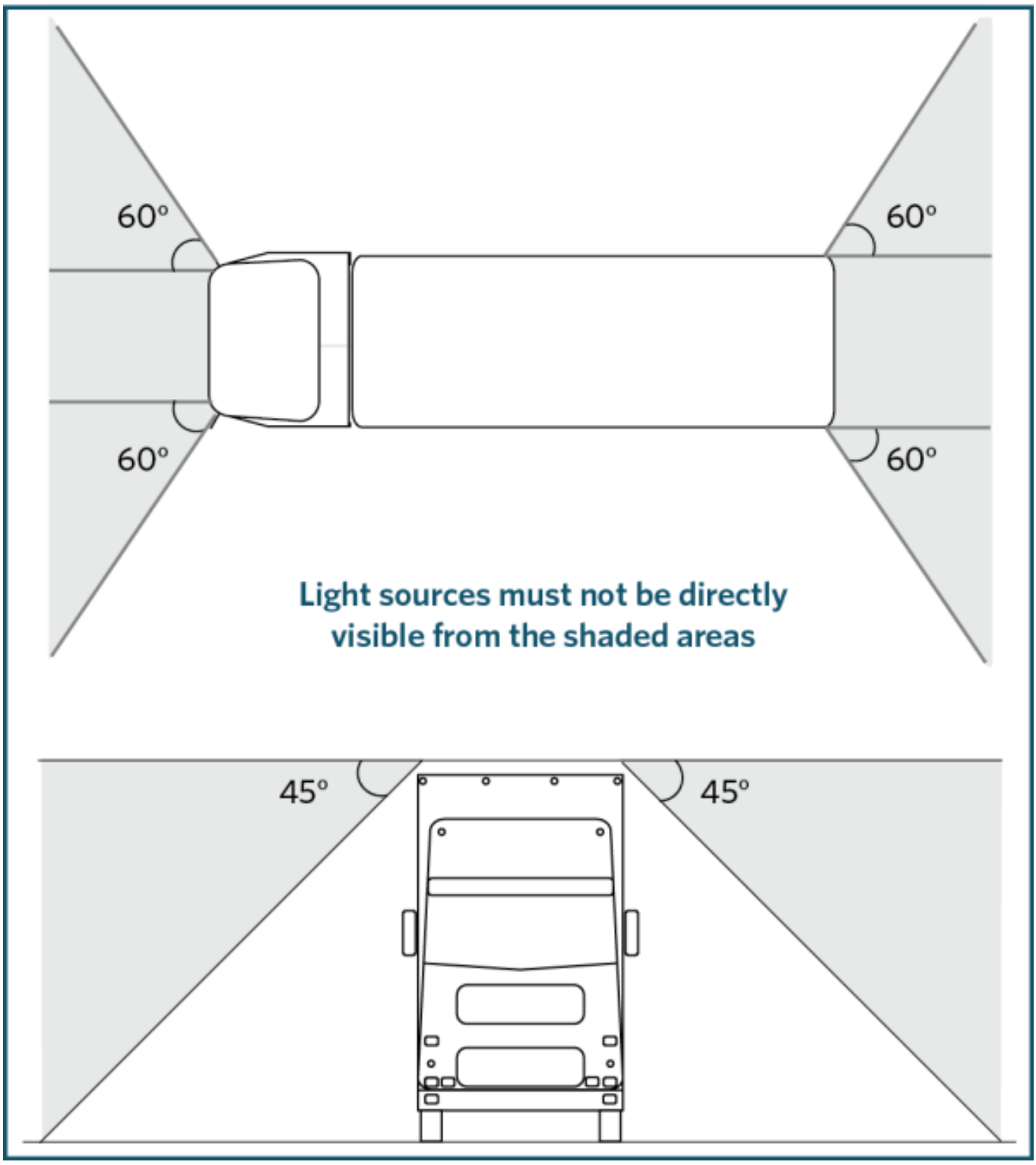
Reflective material (or **retroreflective material**) means any material that is designed to reflect incident light back towards a light source or in a specific direction; but does not include a reflector.

Cosmetic lamp means any lamp that is not listed in Table 4-15-1.

Table 4-15-1. Lamps that are not cosmetic lamps

Lamps covered in the VIRM	Other lighting equipment not requiring inspection
Headlamps Stop lamps High-mounted stop lamps Direction indicator lamps Position lamps (includes side-marker lamps and end-outline marker lamps) Rear-registration-plate illumination lamps Rear reflectors Fog lamps Daytime running lamps Cornering lamps Reversing lamps PSV interior lamps Work lamps	Interior lamps *Designed to illuminate the interior of the vehicle for the convenience of passengers* Flashing or revolving beacons Illuminated vehicle-mounted signs *Includes PSV destination signs, taxi signs and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation* A light source that is a necessary part of equipment required or permitted by any enactment to be fitted to a vehicle *Includes LEDs that indicate status on eRUC labels*

Figure 4-15-1. Visibility angles for cosmetic lamps



Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. A vehicle may be fitted with one or more lamps not specified in Table 4-15-1, provided they are fitted so that light sources are not visible in those regions specified in Figure 4-15-1.

2. A cosmetic lamp must be fitted in a fixed position on the vehicle and positioned so that no part of the light source is situated within 250mm of a mandatory lamp.

3. A work lamp that is fitted to a vehicle is wired in such a way that the switch or circuit for any mandatory or optional lamp controls it.

Performance

3. A cosmetic lamp must:

a) only emit light that is diffuse, and

b) not emit light that flashes or otherwise varies in intensity or colour, and

c) be fitted in a way, and be of a luminance that ensures, that it does not dazzle, confuse or distract other road users, and

d) not emit a light that revolves, rotates or otherwise moves, and

e) not cause confusion as to the orientation of the vehicle, and

f) not emit a red light that is directly visible from the front of the vehicle, and

g) not emit a light other than red or amber if the light is directly visible from the rear of the vehicle.

6. A forward-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

7. A side-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

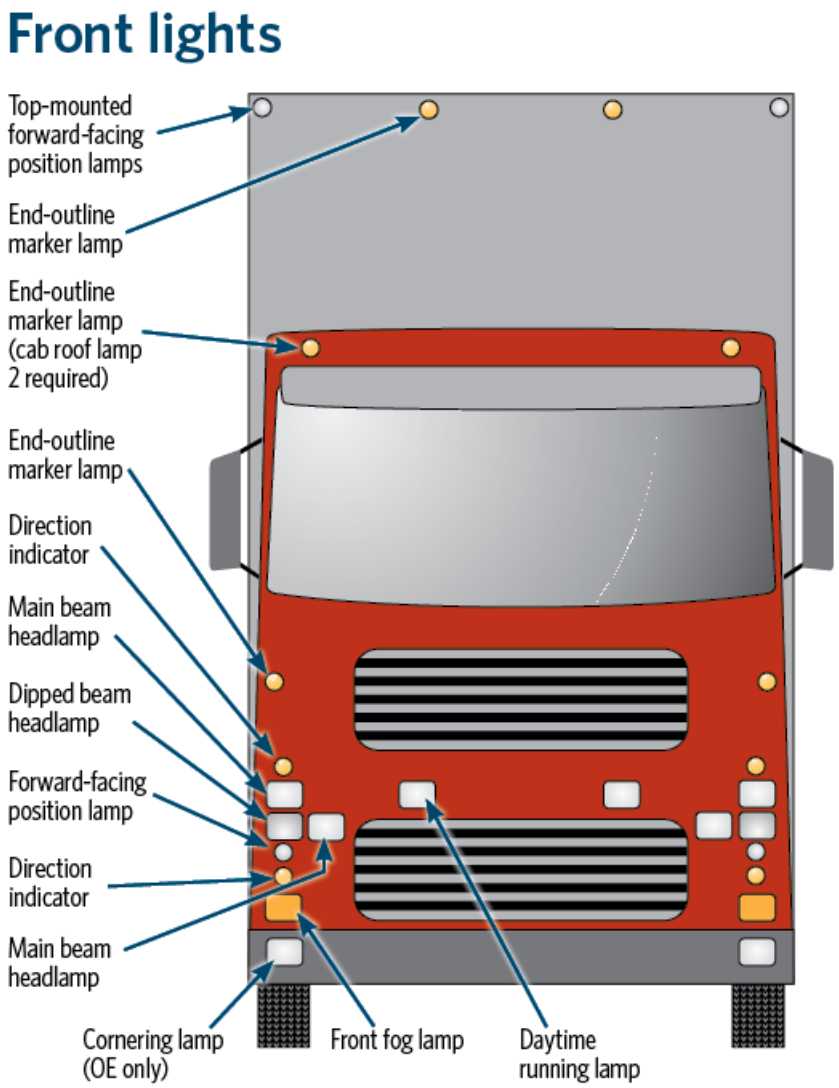
Page amended **1 May 2021** (see **amendment details**).

4-16 Heavy vehicle lighting identification and requirements

You can download this section as a printable PDF:

Heavy vehicle lights identification and requirements

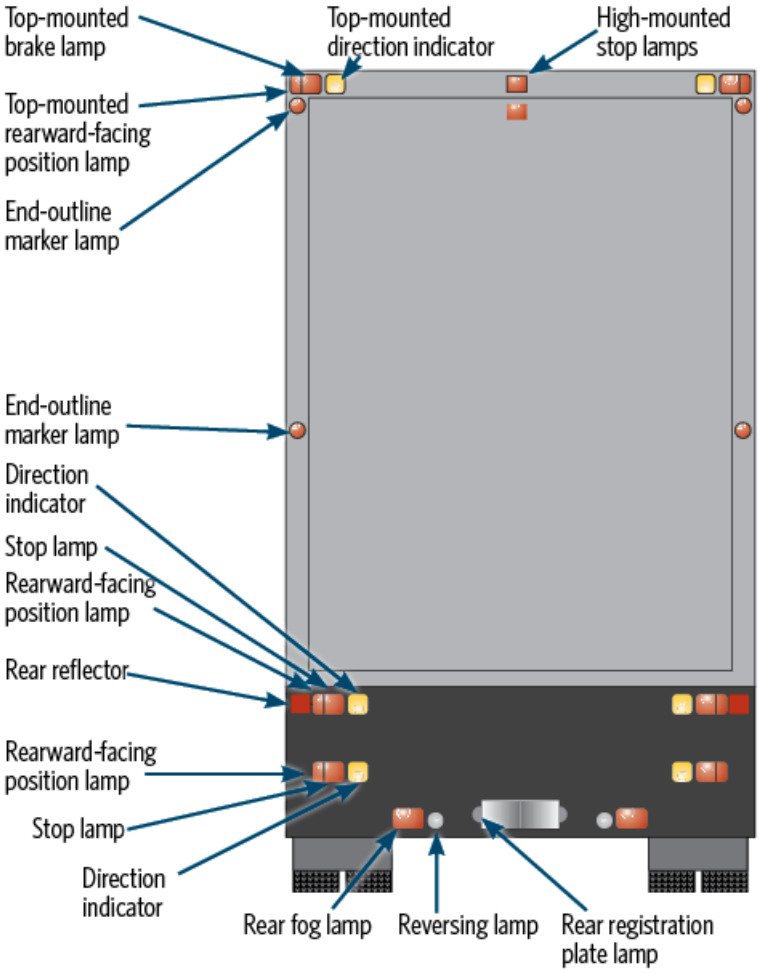
Identifying heavy vehicle lights – front of vehicle



Heavy vehicle front mandatory lamps totals (Note 1) (Note 2)

Type of front lamp	Minimum number	Maximum number	Other requirements
Headlamps - dipped beam	1 pair	1 pair	2 pair may be fitted if registered 01/01/1977 - 31/03/1980
Direction indicator lamps	1 pair	2 pair	Vehicle first registered anywhere from 01/07/1967
Direction indicator side lamps	1 pair	2 pair	Vehicle first registered from 01/01/1978, and exceeds 9.2m length
Forward facing position lamp	1 pair	1 pair	Vehicle first registered from 01/01/1978 that exceeds 1.5m width, or vehicle exceeds 2m width
End outline marker lamps	2 (Cab roof)	Unlimited	Vehicle first registered before 27/02/2005, and GVM exceeds 11,300kg, or combination exceeds 9.2m length
End outline marker lamps	2 (Cab roof)	12	Vehicle manufactured before 01/04/2011, and GVM exceeds 11,300kg, or combination exceeds 9.2m length
End outline marker lamps	2	12	Vehicle manufactured from 1/04/2011, and vehicle GVM/GCM exceeds 12,000kg, or combo exceeds 2.1m width
End outline marker lamps	2	6	Vehicle manufactured from 1/04/2011, and vehicle exceeds 2.1m width

Identifying heavy vehicle lights – rear of vehicle



Note 1

Land Transport Rule Vehicle Lighting 2004, s1.4(3) Lighting equipment that, before 27 February 2005, was approved for fitting to a vehicle under any enactment in force immediately before the commencement of this rule, whether or not the lighting equipment was required to be fitted, may remain fitted on or after 27 February 2005 if it complies with the relevant safety requirements in this rule.

Note 2

Definition: Position lamp – a low intensity lamp to indicate the presence and dimensions of a vehicle, being: a forward facing position lamp (front side lamp), a rearward facing position lamp (rear side lamp or tail lamp), a side marker lamp, an end outline marker lamp (indludes cab roof lamp).

5 Vision

5-1 Glazing

Reasons for rejection

Mandatory equipment

1. Refer to **general vehicle pages**.

2. A glazing marking required in Table 5-1-8 or Table 5-1-9 is missing, except for:

a) hard plastic glazing behind the driver's seat in a vehicle manufactured before 1 January 1991, or

b) markings on any isolation shield (see **general vehicles Table 5-1-6**) (Note 3).

Condition

3. Refer to **general vehicle pages** (Note 1).

4. A wire-mesh windscreen stoneguard (Figure 5-1-7):

a) top edge is **both** above the top of the steering wheel in its highest adjusted position **and** above 225mm measured from the bottom edge of the windscreen, or

b) has a mesh size smaller than 12mm (Note 2), or

c) makes it difficult to access the windscreen for cleaning.

Performance

5. Refer to **general vehicle pages**.

Modification

Permitted modifications

6. Refer to **general vehicle pages**.

7. OE glazing that affects the structural integrity of the vehicle has been permanently removed and:

a) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Windscreen repair

8. Refer to **general vehicle pages**.

Note 1

With reference to Figure 5-1-8, **for heavy vehicles only**, the upper and lower boundaries of the CVA must be taken as:

- Upper boundary: the lower of 100mm from the edge of the glazing or 900mm from the top of the uncompressed seat cushion
- Lower boundary: the higher of the top of the uncompressed seat cushion or 100mm from the bottom of the windscreen.

Note 2

Objects, whether functional or otherwise (for example signage or badges) must not be attached to a wire-mesh windscreen stoneguard.

Note 3

Waka Kotahi makes no representations about the effectiveness of these installations, whether they are required, or whether they are sufficient for the purposes of meeting health and safety or other requirements. It takes no responsibility for the installation and use of isolation shields.
Container

Table 5-1-8. Required markings for windscreens on heavy vehicles

Vehicle class	Date of manufacture			
	Before 1/1/60	1/1/60–31/12/90	1/1/91–30/6/97	From 1/7/97
MD3, MD4, ME, NB, NC	–	Safety glass with approved trade name or approved standard	Safety glass with approved standard	Laminated glass with approved standard

Table 5-1-9. Required marking for other glazing on heavy vehicles

Vehicle class	Date of manufacture		
	Before 1/2/77	1/2/77–31/12/90	From 1/1/91
MD3[1], MD4[1], ME[1], NB, NC	–	Safety glass with approved trade name or approved standard	Safety glass with approved standard

[1] Curved scenic skylights above the cant rail, curved windows at front and rear corners, skylights, louvres and interior partitions may be made of transparent material of a kind that does not shatter. This material is not usually marked.

Figure 5-1-7. Stoneguard measurements

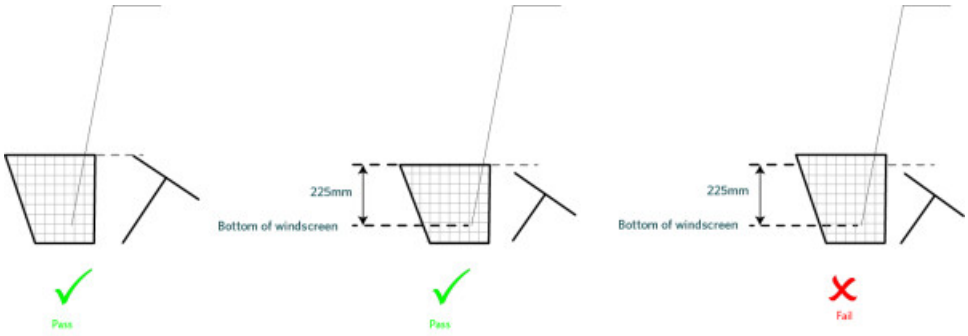
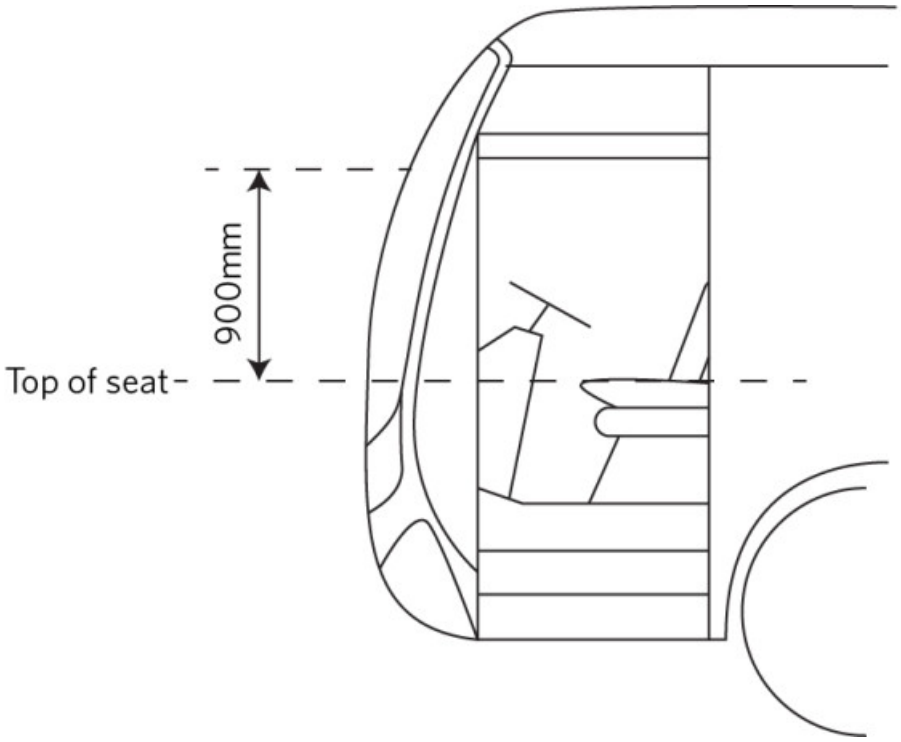


Figure 5-1-8. CVA upper and lower boundaries on a heavy vehicle



Note: Applies to all heavy vehicles, not only buses.

Summary of legislation

Applicable legislation

- Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999
- Land Transport Rule: External Projections 2001.

Mandatory equipment

1. Refer to general vehicle pages.

2. A glazing marking required in Table 5-1-8 or Table 5-1-9 is missing, unless it is hard plastic glazing behind the driver's seat in a vehicle manufactured before 1 January 1991.

Condition

3. Refer to general vehicle pages.

Performance

4. Refer to general vehicle pages.

Modification

5. The permanent removal of OE glazing that affects the structural integrity of the vehicle requires certification by an HVS certifier.

Page amended **1 April 2023** (see amendment details).

5-2 Sun visors

Reasons for rejection

Mandatory equipment

1. A sun visor for the driver's use is not fitted to a vehicle (other than of class LE) which can practicably be fitted with a sun visor (Note 1).

Condition

2. A sun visor:

a) is insecurely mounted, or

b) for the driver, cannot be adjusted from the normal driving position, or

c) cannot maintain its adjusted position, or

d) has been modified or has deteriorated, and the likelihood of injury to vehicle occupants has not been minimised.

Performance

3. A driver's sun visor does not effectively aid the driver's vision by intercepting the glare from the sun.

Note 1 Definitions

Sun visor means any attachment mounted above the inside of the windscreen and provided for the purpose of shielding the eyes of the driver and other front seat passengers from solar glare.

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Equipment 2004
- Land Transport Rule: Interior Impact 2002.

Mandatory equipment

1. A vehicle other than of class LE must be fitted with a sun visor for the driver's use if it is reasonable and practicable to do so (Note 1).

Permitted equipment

2. A vehicle of class LE may be fitted with a sun visor.

3. Additional sun visors may be fitted in other positions.

Condition

4. The condition of a sun visor must be such that the likelihood of injury to occupants is minimised.

Performance

5. A driver’s sun visor must be effective.

Modification

6. A sun visor that is not OE or that has been affected by a modification (Note 1):

    a) must meet the requirements for equipment, condition and performance, and

    b) does not require LVV specialist certification.

5-3 Windscreen wipe and wash

Reasons for rejection

Mandatory equipment

1. A vehicle that has a windscreen is not fitted with a windscreen wipe system.

2. A vehicle manufactured on or after 1 January 1992 is not fitted with a windscreen wash system.

3. A vehicle manufactured on or after 1 January 1960 is fitted with wipers that are not power driven.

Condition

Windscreen wipe system

4. The wiper operating device is missing.

5. A wiper arm or wiper blade is:

    a) missing, or

    b) insecure, or

    c) damaged so as to affect the performance of the wipers.

6. The wiper operating mechanism is:

    a) missing, or

    b) insecure, or

    c) damaged so as to affect the performance of the wipers.

Windscreen wash system

7. A wash system component is missing or insecure.

8. The wash operating device is missing.

Performance

Windscreen wipe system

9. A windscreen wiper does not wipe the windscreen effectively, preventing adequate forward vision by the driver.

10. The wipe operating device is unable to activate the wipe system.

Windscreen wash system

11. A windscreen wash nozzle does not discharge washer liquid directly onto the windscreen.

12. The wash operating device is unable to activate the wash system.

Modifications

13. A modification affects a windscreen wipe system, and:

    a) is not excluded from the requirements for specialist certification (Table 5-3-1), and

    b) is missing proof of specialist or accepted overseas certification, ie:

        i. the vehicle is not fitted with a valid certification plate, or

        ii. the operator is not able to produce a valid modification declaration or authority card.

Table 5-3-1. Modifications that do not require specialist certification

Fitting of or modification to:	Specialist certification is never required:
Removal of a windscreen wash system from a vehicle manufactured before 1/1/1992	• in-service requirements for condition and performance must be met.
Any modification for the purposes of law enforcement or the provision of emergency services	

Summary of legislation

Applicable legislation

- Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999.

Mandatory equipment

1. A vehicle manufactured before 1 January 1992 that is fitted with a windscreen must have a windscreen wipe system.

2. A vehicle manufactured on or after 1 January 1992 that is fitted with a windscreen must have a windscreen wipe and wash system.

3. Windscreen wipers must be power driven, unless they follow OE specifications in a vehicle manufactured before 1 January 1960.

Permitted equipment

4. A vehicle may be fitted with a wash system when this is not required.

Condition

5. A vehicle's windscreen wipe system must be efficient and within the vehicle manufacturer's operating limits.

Performance

6. The equipment fitted must be capable of keeping an adequate area of the windscreen clean and clear so that the vehicle may be operated safely under all reasonably foreseeable conditions.

Modifications

7. An OE windscreen washing system may be removed from a vehicle manufactured before 1 January 1992.

8. A modification to the windscreen wipe system must be inspected and certified by an specialist certifier unless the vehicle:

a) is excluded from the requirement for specialist certification (Table 5-3-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition, and performance.

Page updated 28 February 2022 (see **details**)

5-4 Rear-view mirrors

Reasons for rejection

Mandatory equipment

1. A class MD3, MD4, ME, NB or NC vehicle is not fitted with:

a) an outside left-hand rear view mirror, or

b) an outside right-hand rear view mirror.

2. An unclassified vehicle is not fitted with at least one rear view mirror.

Permitted equipment

3. Refer to **general vehicle pages**.

Condition

4. Refer to **general vehicle pages**.

Performance

5. Refer to **general vehicle pages**.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Windscreen Wipe and Wash, and Mirrors 1999**.

Mandatory equipment

1. A class MD3, MD4, ME, NB and NC vehicle must be fitted with an outside left-hand and an outside right-hand rear-view mirror.

2. An unclassified heavy vehicle must be fitted with at least one rear-view mirror.

Permitted equipment

3. Refer to **general vehicle pages**.

Condition

4. Refer to **general vehicle pages**.

Performance

5. Refer to **general vehicle pages**.

Modification and repair

6. A rear-view mirror that is affected by a modification or repair:

    a) must meet the requirements for equipment, condition and performance, and

    b) does not require HVS certification.

6 Entrance and exit

6-1 Door and hinged panel retention systems

Reasons for rejection

Mandatory equipment

1. A motor vehicle fitted with doors used by the driver or passengers for entrance and exit of the motor vehicle does not have a door retention system.

2. A vehicle for transporting prisoners which does not have doors in the prison compartment that can be opened from the inside, has no alternative exit that can be operated by an authorised person in an emergency.

Equipment condition

3. A hinge for a door or other hinged panel is not securely attached to both the vehicle body and to the door or other hinged panel due to loose connections, corrosion or other damage (Note 1).

4. A latch, catch, striker or any other part of a door or hinged panel retention system is not securely attached, or is in poor condition, due to a loose connection, corrosion or other damage (Note 1).

5. A door used for entrance and exit of the driver or passengers cannot be opened from the inside, unless the vehicle is designed or adapted to transport prisoners and the door is inoperable from the inside of the prison compartment.

6. A child safety lock or similar safety device cannot be deactivated.

7. There is corrosion damage within 150 mm of the hinge of a door or other hinged panel (see Figure 6-1-1).

8. There is corrosion damage within 150 mm of the latch of a door or other hinged panel (see Figure 6-1-1).

Equipment performance

9. A door used for entrance and exit of the driver or passengers does not open or close easily.

10. A door or other hinged panel does not remain secure in a closed or locked position.

Modifications

11. A modification (Note 2) affects door or hinged panel retention systems, and:

a) is not excluded from the requirements for LVV specialist certification (Table 6-1-1), and

b) is missing proof of LVV specialist or accepted overseas certification, ie:

i. the vehicle is not fitted with a valid LVV certification plate, or

ii. the operator is not able to produce a valid modification declaration or authority card, or

iii. the vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13**.

Note 1

Corrosion damage is where the metal has been eaten away, which is evident by pitting. The outward signs of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by the corrosion damage will fall out and leave a hole.

Note 2 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment, including replacement with undamaged or new structures, systems, components or equipment.

Child safety lock (also known as a kiddi-lock) means a safety device installed during the manufacture of the vehicle to prevent a door from being opened from the inside of the vehicle.

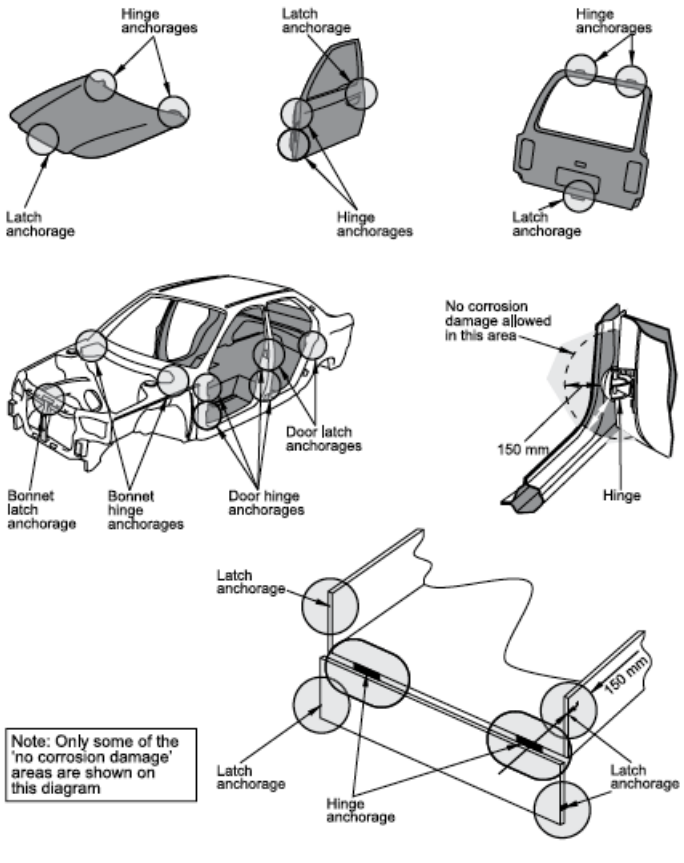
Tables and images

Table 6-1-1 Modifications that do not require LVV certification

Fitting of or modification to:	LVV certification is not required provided that:
Exterior door handles (on doors normally used for entry and exit of occupants)	• the modification is minor (eg removal of key locks), and • door handles remain fitted and in serviceable condition. **Note** The fitting of a door opening/closing mechanism (which may include the removal of exterior door handles) that differs from original must be LVV certified.

Fitting of or modification to:	LVV certification is never required:
Any modification for the purposes of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Figure 6-1-1 Hinge and latch anchorages



No corrosion damage is allowed within 150mm of a circle around the outside of hinge or latch components.

See also figures for corrosion limits to structure (**section 3-1**), seatbelt anchorages (**section 7-5**), and front or rear suspension anchorages (**section 9-1**).

Summary of legislation

Applicable legislation

- **Land Transport Rule: Door Retention Systems 2001**
- **Land Transport Rule: Vehicle Standards Compliance 2002, section 7.4**.

Mandatory equipment

1. A motor vehicle fitted with doors used by the driver or passengers for entrance and exit of the motor vehicle must have a door retention system.

Permitted equipment

2. The door retention system on doors to the rear of the driver's seat may incorporate safety devices installed during the manufacture of the vehicle to prevent the doors from being opened from the inside of the vehicle (eg child safety locks).

3. A vehicle designed or adapted to transport prisoners is not required to be fitted with a mechanism for opening a door from the inside if the prison compartment has an alternative exit that can be operated by an authorised person in an emergency.

Equipment condition

4. A door retention system and its mountings must be safe and structurally sound.

5. A door used for the entrance and exit of the driver or passengers must be operable by any occupant seated by the door from inside the motor vehicle, unless it is permitted equipment designed or adapted to operate otherwise.

6. The vehicle must be designed and constructed using components and materials that are fit for their purpose, and within safe tolerance of their state when manufactured or modified.

Equipment performance

7. A door retention system must be in good working order.

8. A door used for entrance and exit must open and close easily.

9. A door used for entrance and exit must remain secure in a closed position during the operation of the motor vehicle.

Modifications

10. A modification that affects door or hinged panel retention systems must be inspected and certified by a low volume vehicle specialist certifier, unless the vehicle:

a) is excluded from the requirement for LVV specialist certification (Table 6-1-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **2 December 2019** (see **amendment details**).

7 Vehicle interior

7-1 Seats and seat anchorages

Reasons for rejection

Mandatory equipment

1. Refer to **general vehicle pages**.

Condition and performance

2. Refer to **general vehicle pages**.

Modification and repair

3. A modification or repair since 1 April 2002 (Note 1) affects a seat or seat anchorage and:

    a) is not excluded from the requirements for HVS certification (Table 7-1-2), or

    b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

    c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

        i. no LANDATA record has been entered, or

        ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Note 1

If the vehicle inspector is in doubt as to when the modification or repair was carried out the onus is on the vehicle owner to provide evidence to support their claim or specialist certification will be required.

Table 7-1-2. Requirements for HVS certification

Certification required	Certification not required
1. Retrofitting a seat that: a) has an integrated seatbelt, or b) is not fitted to existing unmodified OE seat anchorages.	1. Seat modification or replacement, or installation of a seat anchorage, provided that: a) the seat is either an unmodified OE seat from another vehicle or of a known and reputable aftermarket brand, and i. the seat is fitted to unmodified OE seat anchorages, and ii. the anchorage or operation of seatbelts is not affected, and iii. the relationship between seat, seat occupant, and location of the seatbelt anchorages is not affected. 2. Removal of seats and/or seatbelts (however, a class change and a new load rating may be required in some cases). 3. Fitting or modification to seat pads or covers. 4. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Summary of legislation

Applicable legislation

- **Land Transport Rule: Seats and Seat Anchorages 2002**.

Mandatory equipment

1. Refer to to **general vehicle pages**.

Condition and performance

2. Refer to to **general vehicle pages**.

Modifications

3. A modification on or after 1 April 2002 (Note 1) that affects a seat or seat anchorage must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 7-1-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see amendment details).

7-3 Head restraints

Reasons for rejection

Condition and performance

1. The external surfaces and padding of a head restraint have deteriorated to the extent that they are likely to injure a vehicle occupant.

2. An adjustable head restraint is unable to remain locked in its adjusted position.

Modification

3. A modification (Note 1) affects a head restraint, and

a) is not excluded from the requirements for LVV specialist certification (Table 7-3-1), and

b) is missing proof of LVV specialist or accepted overseas certification, ie:

i. the vehicle is not fitted with a valid LVV certification plate, or

ii. the operator is not able to produce a valid modification declaration or authority card, or

iii. the vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13**.

Note 1 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Table 7-3-1. Modifications that do not require LVV certification

Fitting of or modification to:	LVV certification is not required provided that:

Head restraint removal	• A front head restraint must not be removed from a vehicle if:
	  ○ there is a solid structure within 300mm behind the seat back, or
	  ○ the vehicle is required to comply with a frontal impact occupant protection standard (Note 2)
	• A rear head restraint must not be removed from a vehicle if there is a solid structure within 300mm behind the seat back.

Fitting of aftermarket LCD screens to head restraints	• the performance of the head restraint is not affected, ie the head restraint still provides sufficient padding for the seat occupant, and • the screen is fitted in a suitable manner, eg. it appears similar to OE fitments in other vehicles, or • the screen can be easily attached or removed.

Fitting of or modification to:	LVV certification is never required:
• Any modification for the purpose of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Note 2

The following vehicles with a GVM of 2500 kg or less are required to comply with such a standard:

- class MA motor vehicles manufactured from 1 March 1999, and
- class MA motor vehicles that were less than 20 years old when they were first registered in New Zealand on or after 1 April 2002, and
- class MB or MC motor vehicles manufactured from 1 October 2003.

Summary of legislation

Applicable legislation

- Land Transport Rule: Head Restraints 2001
- Land Transport Rule: Frontal Impact 2001.

Permitted equipment

1. A motor vehicle may be fitted with head restraints.

Condition and performance

2. The external surfaces and padding of a head restraint must not have deteriorated to the extent that the likelihood of injury to an occupant of the vehicle is increased.

3. An adjustable head restraint must remain able to be adjusted and locked into position.

Modification

4. A modification that affects a head restraint must be inspected and certified by an LVV specialist certifier, unless the vehicle is:

a) excluded from the requirement for LVV specialist certification (Table 7-3-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **29 April 2020** (see **amendment details**).

7-5 Seatbelts and seatbelt anchorages

Mandatory equipment (Note 2)

1. Refer to **general vehicle pages**.

2. A class NB or NC vehicle is not fitted with seatbelts as specified in Table 7-5-7, and the requirements for specific vehicles in Table 7-5-4 (general vehicle pages) are not met.

3. A motorhome is not fitted with seatbelts as specified in Table 7-5-7.

4. A three-point seatbelt imported and distributed by BVL (Business Ventures Limited) and manufactured by Changzhou BWD, China or Jiang Su Jiu Jiu Traffic Facilities Co. Ltd. is installed (See Figure 7-5-1 for samples to help identify the seatbelts).

- See also the **Safety alert: Seatbelts imported by BVL (Business Ventures Limited)**

5. A re-webbed seatbelt is fitted without evidence of exemption from requirements by NZTA.

- See **Technical bulletin: Seatbelt repair and re-webbing**

Condition

6. Refer to **general vehicle pages**.

Performance

7. Refer to **general vehicle pages**.

Modification and repair

8. A modification or repair since 1 April 2002 affects a seatbelt or seatbelt anchorage and:

a) is not excluded from the requirements for HVS certification (Table 7-5-8), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

9. The seatbelt assembly has been removed after it was rejected for one or more reasons for rejection due to **Condition** or **Performance** (above), whether or not the seatbelt is required to be fitted.

Note 1

On NZ Army Pinzgauer vehicles, the belts/harnesses fitted in the rear are attached to load anchorage points certified to NZS 5444. They are not considered to be seatbelts for the purpose of CoF inspections.

Note 2

Except as provided by Table 7-5-8, item 5, any seatbelt fitted to a seating position of a vehicle—either having been entry certified (as originally manufactured or modified) or subsequently specialist certified—must remain and be restored when damaged. It cannot be removed on the grounds that Table 7-5-7 doesn't require a seatbelt.

Table 7-5-7. Seatbelt requirements for heavy vehicles (first registered in New Zealand from 1 April 2002) and all heavy motorhomes (first registered anytime)

Vehicle class	Seating position	Manufactured[3]	
		before 1 October 2003	from 1 October 2003
NB, NC	Front outer and driver's	–	R2[2]
	Front middle	–	L
	Rear outer[1]	–	–
	Rear middle[1]	–	–
Motorhome	Front outer and driver's	–	R2
	Front middle	–	L
	Rear outer[1, 4]	–	R1 or R2 or L
	Rear middle[4]	–	L or S or R1 or R2
	Rear sideways-facing[1, 4]	-	L

[1] A sideways-facing seating position in a vehicle first registered in New Zealand before 1 October 2002 may be fitted with a seatbelt of any type, and in a vehicle first registered from 1 October 2002 may be fitted with a seat belt that is a lapbelt only.

[2] Front type R1 seatbelts may remain fitted if they were fitted as OE and have a declaration issued by a certifier, or a plate affixed to the vehicle in a position approved by NZTA.

[3] For a motorhome, manufactured means motor vehicles converted to motorhomes as well as manufactured as motorhomes.

[4] Rear seating positions: at least as many lap (type L) or lap-and-diagonal (type R1 or R2) seatbelts as there are sleeping berths minus the number of front seating positions.

Table 7-5-8. Certification requirements for seatbelts and seatbelt anchorages

HVS certification is required	HVS certification is not required
1. Retrofitting of seatbelt anchorages, including seats with integrated seatbelts (for Pinzgauers see (Note 1)). 2. Fitting of an alternative type of seatbelt.	1. Fitting of or modification to seatbelts, when: a) the modification is approved by the seatbelt or vehicle manufacturer, or b) the modification is temporary for the accommodation of a child restraint, and does not: i. affect the performance of the child restraint, or ii. cause injury to a vehicle occupant, or iii. cause damage to the seatbelt. 2. Top-tether anchorage for a child seat or harness, when the installation has been carried out in accordance with the instructions of the seat or harness manufacturer. 3. Fitting of unmodified seatbelts. 4. Retrofitting type-tested rear seatbelt anchorages. 5. Removal of seatbelts (full or partial) where the seating position has been removed (Note 2). 6. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Figure 7-5-1. Identifying seatbelts by BVL (Business Ventures Limited) and manufactured by Changzhou BWD, China or Jiang Su Jiu Jiu Traffic Facilities Co. Ltd.

Applicable legislation

- Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002

Mandatory equipment

1. Refer to general vehicle pages.

2. A class NB or NC vehicle must be fitted with seatbelts as specified in Table 7-5-7.

3. A motorhome manufactured on or after 1 October 2003 or a motor vehicle converted into a motorhome on or after 1 October 2003 must be fitted with seatbelts as specified in Table 7-5-7.

Permitted equipment

4. Refer to general vehicle pages.

Condition

5. Refer to **general vehicle pages**.

Performance

6. Refer to **general vehicle pages**.

Modification

7. Refer to **general vehicle pages**.

8. The fitting of an alternative type of seatbelt, or a modification on or after 1 April 2002 that affects a seatbelt anchorage in a heavy vehicle, must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle is:

a) excluded from the requirement for HVS certification (Table 7-5-8), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**).

7-6 Frontal impact airbags

Reasons for rejection

Mandatory equipment

1. Refer to **general vehicle pages**.

Condition and performance

2. Refer to **general vehicle pages**.

Modification

3. A modification affects an airbag system (eg an airbag has been removed or made inoperable, including retrofitting a switch), and

a) the modification is not for the purposes of law enforcement or the provision of emergency services, or

b) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from a HVS certifier of category HVEC or HMCD has been presented.

4. A motor vehicle that has an airbag system removed or made inoperable and been certified as above does not:

a) have all OE signs, lights, or other devices that indicated that the vehicle was fitted with an airbag removed, or

b) if the signs, lights or other devices cannot be readily removed, have a label that indicates an airbag has been removed permanently attached in a prominent location where it is clearly visible to any occupant of the seating position that was previously protected by the airbag.

Note 1

Some modifications are permitted, but they must always be LVV certified. The only modifications permitted are:

1. fitting a switch to render an airbag temporarily inoperable, and

2. the removal or permanent deactivation of an airbag in a vehicle that:

- is at least 14 years old, or
- has been adapted for a person with a disability, or
- has been extensively modified for motorsport use.

Table 7-6-1. Modifications that do not require LVV certification

Fitting of or modification to:	LVV certification is never required:
Any modification for the purposes of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Summary of legislation

Applicable legislation

- Land Transport Rule: Frontal Impact 2001.

Mandatory equipment

1. A frontal impact airbag and its operating system must remain operational if the vehicle was originally manufactured with a frontal impact airbag.

2. An airbag warning light system must remain operational if it was fitted by the vehicle manufacturer.

3. A motor vehicle must not have a sign, light, or other device that indicates the vehicle is fitted with an airbag if it is not fitted with an airbag.

4. A motor vehicle must not have a light or other device indicating an airbag operating system is operable if it is inoperable.

Permitted equipment

5. A switch may be installed as OE to render an airbag temporarily inoperable.

Condition and performance

6. An airbag and its operating system must be safe and in good condition.

7. An airbag warning light fitted by the manufacturer must remain operational.

Modification

8. A motor vehicle that has had an airbag removed or made inoperable must either:

a) have all OE signs lights, or other devices that indicated the vehicle was fitted with an airbag removed, or

b) if the signs, lights, or other devices cannot be readily removed, have a label that indicates an airbag has been removed permanently attached in a prominent location where it is clearly visible to any occupant of the seating position that was previously protected by the airbag.

9. A modification that affects an airbag system must be inspected and certified by an LVV specialist certifier, unless the vehicle is:

a) excluded from the requirement for LVV specialist certification (Table 7-6-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 December 2016** (see **amendment details**).

7-7 Interior impact

Reasons for rejection

Mandatory equipment

1. Where an interior fitting, control or surface has been added, removed, substituted or has deteriorated, the likelihood of injury to occupants has not been minimised.

Modification

2. A modification (Note 1) affects an interior fitting, control or surface, and:

a) is not excluded from the requirements for LVV specialist certification (Table 7-7-1), and

b) is missing proof of LVV specialist or accepted overseas certification, ie:

i. the vehicle is not fitted with a valid LVV certification plate, or

ii. the operator is not able to produce a valid modification declaration or authority card, or

iii. the vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13**.

Note 1 Definitions

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Table 7-7-1. Modifications that do not require LVV certification

Fitting of or modification to:	LVV certification is not required provided that:
Isolation shields (to separate vehicle occupants for the purpose of medical isolation) (Note 3)	The shield: • is constructed from a transparent flexible thin film, and • does not interfere with the driver's vision (including through the front side windows, and rear-view mirrors), and • does not interfere with the operation of airbags, and • does not interfere with the driver's ability to reach vehicle controls (including lights, warning devices, etc.), and • is fastened to the vehicle using flexible/breakaway fixings that are unlikely to injure a vehicle occupant, and • can be quickly and easily removed to allow for emergency access or exit of the vehicle. (**Note:** the partition/shield should be able to be removed, or broken, with a reasonable push or strike to allow both the driver and passenger/s to use an alternative exit in the event of an emergency.)

Additional and substituted items such as instruments, switches, cellphone installations and navigation equipment or an OE item from another vehicle	• the items are:
	  ○ mounted flush with, or protected by, the dashboard surface, or
	  ○ fitted forward of the steering wheel, or between the steering wheel and the nearest door, or
	  ○ fitted between and forward of the front seats (where no centre seat exists), and within 140 mm either side of the vehicle centreline

Additional accelerator and brake pedal (for driving school vehicles)	• The operation of the primary brake pedal is not affected, and • no modifications to the primary brake pedal or any other part of the primary brake system has occurred, and • adequate clearance is maintained between all pedals. See also **Table 8-1-1**
Aftermarket brake pedal pads or covers	• The operation of the primary brake pedal is not affected, and • no modifications to the primary brake pedal or any other part of the primary brake system has occurred, and • adequate clearance is maintained between all pedals. See also **Table 8-1-1**

Fitting of or modification to:	LVV certification is not required provided that:

Aftermarket or custom brake pedal extensions (for unusually short people)	• The extension:
	  ○ does not exceed 100mm length when measured from the surface of the original brake pedal, and
	  ○ is securely clamped to the original pedal by mechanical means, and
	  ○ is sufficiently strong and rigid to withstand emergency brake loads, and
	  ○ does not involve any modification to, or compromise the strength of, the original brake pedal, and
	  ○ does not significantly change the sideways load or leverage against the pedal, and
	  ○ does not significantly increase the weight of the pedal
	
	See also **Table 8-1-1**

Cargo hoist/cargo lift platform (fitted inside the vehicle)	• the vehicle is not adapted for the transportation of a person in a wheelchair, and the hoist or tail lifter is positioned to the rear of any vehicle occupants and adequately mounted and, • the vehicle structure has not been weakened. See also **Table 3-1-1**

Fitting of or modification to:	LVV certification is not required provided that:
Cargo barriers	The cargo barriers are positioned vertically behind the back of the rearmost seat, and • each seating position, within 300mm of the cargo barrier, is fitted with an effective head restraint, or • the barrier is constructed from a frame and wire mesh (wire less than or equal to 4mm in diameter) with the ability to collapse rearward in the event of a head-strike and with impact absorbing foam covering any frame structure above the seat and within 150mm of the centreline of the seat, or • the barrier is of solid construction (metallic or fibre glass etc.) and has impact absorbing foam, covering any area that would otherwise be protected by a head restraint. **Notes** • Any required impact absorbing foam must be at least 25mm thick • A seat may be removed or permanently disabled to allow the fitment of a cargo barrier without meeting the above requirements. • Any padding added in place of a head restraint does not need to meet any standards approval unless it is attached to the seat. • Rearward collapsibility of a cargo barrier can be achieved with anchorage brackets that deform, allowing the barrier to move backward (see Figure 7-7-2) • Remember that thresholds are only applied to modified vehicles. Some vans have solid OE cargo barriers, and these do not need to meet this threshold

Fitting of or modification to:	LVV certification is not required provided that:
Disability adaptive controls	For disability adaptive hand control systems: • the hand control operates the accelerator system only, and • the presence of the hand control system does not significantly increase the risk of injury to occupants in the event of a crash. For an additional accelerator pedal fitted to the left of the brake pedal: • the vehicle is equipped with automatic transmission, and • the additional accelerator pedal does not affect the operation of the brake pedal or any other part of the brake system, and • the vehicle retains the original equipment accelerator pedal to the right of the brake pedal, and • adequate clearance is maintained between all pedals, and • the accelerator system is protected from accidental application, eg by shielding the right hand accelerator pedal or ability to fold away either accelerator pedal when not in use, and • there is a warning notice easily visible to the driver warning that the foot controls are not as provided by the vehicle manufacturer. For a steering wheel spinner to assist in the operation of the steering wheel: • the spinner is contained within the outer circumference of the steering wheel.

Stereo equipment and speakers	• any modification or fitting carried out before 1/1/1992
	
	If fitted to the rear parcel shelf:
	• no upper seatbelt anchorage is attached to the shelf or any shelf support bracket, and
	• in the case of a top tether point for a child seat attached to the rear shelf, the top tether point is not located within 150 mm of a modification to a rear parcel shelf, and
	• the removal of any material from the rear shelf is minimal and is unlikely to have weakened the vehicle structure to which a seatbelt anchorage is attached.
	
	If fitted to a part of the vehicle other than the rear parcel shelf:
	• the fitting has not weakened the vehicle structure (Note 2)
	• the stereo equipment or speakers fitted in the passenger compartment:
	  ○ present no additional risk of injury, and
	  ○ are securely fastened by mechanical means.
	
	See also **Table 3-1-1** and **Table 7-5-1**

Fitting of or modification to:	LVV certification is not required provided that:

Steering wheels	• the vehicle does not have an airbag installed as OE, and
	• the vehicle is not required to comply with a frontal impact occupant protection standard**1** (Note 2), and
	• the steering wheel is:
	  ○ – a direct substitute without shaft modification, and
	  ○ – a non-OE item of a reputable brand or an OE item from another vehicle
	  ○ a direct substitute, without steering column shaft modification, and
	  ○ a non-OE item of a reputable brand or an OE item from another vehicle, and
	  ○ is mounted with a one-piece boss**2**, and
	  ○ has a diameter greater than 245mm, and
	  ○ does not significantly inhibit the drivers view of the speedometer or mandatory warning lights.
	1 A vehicle that cannot comply with this clause cannot be LVV certified unless it has been issued with an LVV authority card or is at least 14 years old.
	2 A vehicle fitted with a quick release steering wheel must always be referred for LVV certification and is only permitted within strict criteria
	See also **Table 9-1-1**

Roll-bar or roll-cage structures (roll protection or cosmetic)	• each seating position is fitted with an effective head restraint, and • the bars are positioned: – behind, following a plane extending upward, parallel to the back of the backrest on the rear-most seat, and – in such a way that the head restraint would provide protection from head contact with any bar section during a crash.
Gear shift lever relocation	• no substantial modifications have occurred to the floor or gearbox tunnel area, other than provision for gear-shift mechanism, and • the relocation presents no additional risk of injury than OE specification. See also Table **3-1-1**

Fitting of or modification to:	LVV certification is never required:

Modified accelerator pedal	• in-service requirements for condition and performance must be met.
Roof and door lining replacement	
Cargo barriers	
Any modification for the purpose of law enforcement or the provision of emergency services	

Note 2

The following vehicles with a GVM of 2500 kg or less are required to comply with such a standard:

- class MA motor vehicles manufactured from 1 March 1999, and
- class MA motor vehicles that were less than 20 years old when they were first registered in New Zealand on or after 1 April 2002, and
- class MB or MC motor vehicles manufactured from 1 October 2003.

Note 3

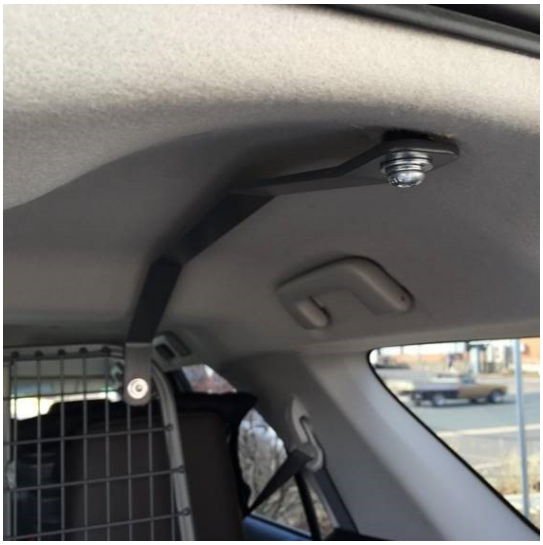
NZTA makes no representations about the effectiveness of these installations, whether they are required, or whether they are sufficient for the purposes of meeting health and safety or other requirements. It takes no responsibility for the installation and use of isolation shields.

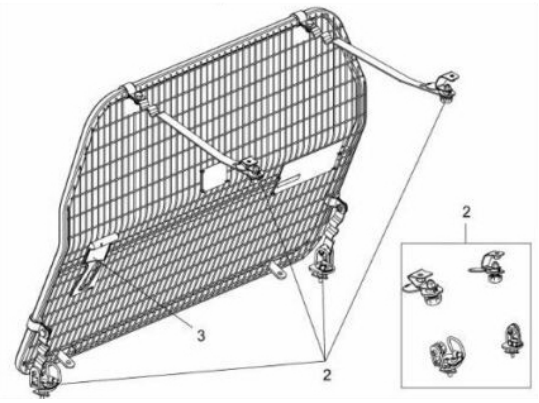
Figure 7-7-1. Cargo barriers

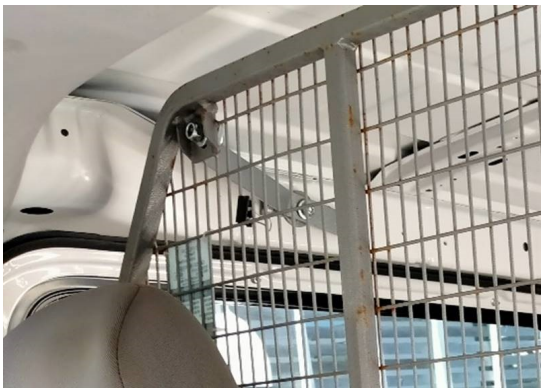
Suitable impact absorbing padding on a solid cargo barrier

Typical cargo barrier. Usually compliant with the thresholds. Check threshold technical requirements

Figure 7-7-2. Collapsible mechanisms







Summary of legislation

Applicable legislation

- Land Transport Rule: Interior Impact 2001.

Condition and performance

1. Interior fittings, controls and surfaces in the passenger compartments must be such that the likelihood of injury to occupants is minimised.

Modification

2. A modification that affects the interior fittings, controls or surfaces must be inspected and certified by an LVV specialist certifier, unless the vehicle:

a) is excluded from the requirement for LVV specialist certification (Table 7-7-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **2 December 2021** (see amendment details).

7-12 Speedometer

Reasons for rejection

Mandatory equipment

1. A vehicle first registered in New Zealand on or after 1 December 1951 that is capable of a speed exceeding 50km/h is not fitted with a speedometer, and the vehicle operator cannot produce acceptable written evidence (Note 2) that:

a) the speedometer has been removed for repair, or

b) there are no undue delays by the vehicle owner in having the speedometer replaced.

Condition and performance

2. The speedometer:

a) does not operate as intended when the vehicle is moving forward (Note 3), or

b) is obscured from the driver's position, or

c) does not indicate the vehicle's speed in km/h or mph.

3. Reason for rejection 2(a), 2(b) or 2(c) applies and the vehicle operator cannot produce acceptable written evidence (Note 2) that repair of the speedometer or associated equipment is impracticable or that a suitable replacement is not available.

Note 1

Speedometer means an instrument in a motor vehicle that continuously indicates to the driver the forward speed of the vehicle in either kilometres per hour (km/h) or miles per hour (mph). For clarification: This definition does not include the speed provided by a GPS system.

Note 2

Acceptable written evidence is documentation provided by the speedometer repairer or supplier. A copy of the documentation must be kept on file with the checksheet.

Note 3

If an odometer is not fitted, not working or unable to be read an appropriate note must be entered into the 'Comments' section of the check sheet and '000001' entered into the odometer field of the check sheet and '000001' entered into VIC or LANDATA. This may display as "1" on some screens.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Equipment 2004.

Mandatory equipment

1. A vehicle first registered in New Zealand on or after 1 December 1951 that is capable of a speed exceeding 50km/h must be fitted with a speedometer (Note 1).

2. A vehicle is not required to have a speedometer if the speedometer or associated equipment:

    a) has been removed for repair and there are no undue delays by the vehicle owner in having it replaced, or

    b) is out of repair, repair is impracticable and a suitable replacement is not available.

Condition and performance

3. The speedometer must be in good working order and operate while the vehicle is moving forward.

Modification

4. A speedometer that is affected by a modification:

    a) must meet the requirements for equipment, condition and performance, and

    b) does not require LVV specialist certification.

Page amended **1 October 2022** (see **amendment details**)

Page updated 1 November 2024 (see **details**)

7-13 Audible warning devices

Reasons for rejection

Mandatory equipment

1. A motor vehicle is:

    a) not fitted with a horn, or

    b) fitted with a bell or whistle (Note 2), or

    c) not an emergency vehicle (Note 1) and is fitted with a siren (Note 2).

2. A horn cannot be easily operated from the driver's seating position.

Performance

3. The horn does not operate when activated.

4. The horn operates when not activated.

5. The sound from the horn is not steady and continuous, eg the horn plays a tune.

6. The horn is not audible at a distance of 100 m.

7. A siren fitted to an emergency vehicle operates when not activated.

Note 1

Emergency vehicle means a vehicle used for the attendance of emergencies and operated:

a) by an enforcement officer, or

b) by an ambulance service, or

c) as a fire service vehicle, or

d) as a civil defence emergency vehicle, or

e) as a New Zealand Defence Force emergency vehicle.

Note 2

A vehicle may be fitted with a bell, whistle or siren that is part of an anti-theft car alarm, personal security alarm or reversing warning device.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Equipment 2004**.

Mandatory equipment

1. A vehicle must be fitted with a device (horn) that is audible to other road users.

Permitted equipment

2. A vehicle may be fitted with a bell, whistle or siren only as follows:

a) a siren fitted to an emergency vehicle (Note 1), or

b) a siren, bell or whistle that is part of an anti-theft car alarm, personal security alarm or a reversing warning device.

Performance

3. The device must be in good working order.

4. The device must be capable of giving a warning that is audible under normal traffic conditions from a distance of at least 100 m.

Modification

5. An audible warning device that is affected by a modification:

a) must meet the requirements for equipment and performance, and

b) does not require LVV specialist certification.

8 Brakes

8-1 Service brake and parking brake

See also **Heavy vehicle brake testing: CoF and entry certification brake test protocol and procedure**

Reasons for rejection

Mandatory equipment

Service brake

1. A heavy vehicle does not have a service brake.

2. A heavy vehicle first registered in New Zealand **on or after 1 November 1990** does not have a service brake that is designed to act on each wheel.

3. A vehicle of class NB or NC listed in Table 8-1-2 is not fitted with an anti-lock braking system (ABS).

Parking brake

4. A heavy vehicle does not have a parking brake.

5. A parking brake of a heavy vehicle first registered in New Zealand **on or after 1 November 1990** acts on less than 40% of the wheels.

6. The parking brake of a heavy vehicle or combination of vehicles cannot be applied by the driver from the normal driving position using one control only.

7. A class NB or NC vehicle fitted with a transmission/Cardan shaft park brake does not have a warning label, visible to the driver, advising that a transmission/Cardan shaft park brake is fitted to this vehicle (see Figure 8-1-6).

7. (From 27 February 2020) If requested by a vehicle inspector, a **4085D Operator statement of compliance with maintenance requirements for parking brake assemblies** form is:

a) not presented, or

b) not complete, or

c) not current.

(see also **technical bulletin (CoF) 9 Park brake inspection and 4085D requirements** for guidance)

Emergency brake

8. A heavy vehicle does not have an emergency brake.

9. The emergency brake of a heavy vehicle first registered in New Zealand **on or after 1 November 1990** that is combined with the service brake or with a parking brake that acts on the transmission does not meet the requirements of Table 8-1-3.

Hoses and other flexible tubing

10. A hose or other flexible tubing forming part of a compressed air or vacuum line does not comply with at least one of the standards in Table 8-1-4 (Note 2).

Compressed air brake systems

11. A heavy vehicle that is fitted with an air brake or a brake that is operated with the assistance of compressed air is not equipped with an air pressure gauge that indicates the pressure in a brake reservoir (Note 3).

12. The service brake circuit of an air-braked class NB or NC vehicle are not fitted with a low-pressure warning device visible and /or audible from the driver's normal driving position.

13. An air-braked vehicle of class NB or NC listed in Table 8-1-5 does not have towing vehicle protection (Note 4).

14. The air brake of a heavy vehicle first registered in New Zealand **on or after 1 March 2007** that has a towing connection to tow an air braked trailer (or a tow connection fitted **on or after 1 March 2007**) is not capable of being connected to the air brake of the trailer by means of a two-line system.

15. A vehicle that is certified to the **New Zealand Heavy-vehicle Brake Specification (HVBNZ)** does not have:

a) a drain valve fitted to the lowest point of each brake reservoir, specifically, the reservoirs of the service brake and park brake, and including the so-called 'wet tank', or

b) a drain valve fitted to an air-brake reservoir or to the reservoir of auxiliary equipment is not capable of being operated by a person standing beside the vehicle, without the need for a pit or hoist, or

c) an automatic drain valve does not have a means of manual operation.

Note Operation of drain valves must not require the use of tools.

Permitted equipment

16. An air-operated device is supplied air from a service brake reservoir (ie not from a separate reservoir) unless:

a) the operation of the device requires only a small amount of compressed air and it is supplied with compressed air by a hose or pipe with an external diameter not exceeding 8mm, or

b) the device is operated only when the vehicle is stationary, or

c) the vehicle manufacturer allows it.

17. An air-operated device is connected to the air brake system without protection (Note 5).

18. A temporary stop brake:

a) cannot be operated from the driver's normal driving position, or

b) interferes with the safe operation of the service brake or the parking brake of the vehicle, or

c) when it can be deactivated only by the driver, does not have a label permanently attached displaying the words NOT FOR PARKING, or

d) when it can be deactivated by the control system of the vehicle (eg when the engine is switched off), does not have at least one of the following:

- a label permanently attached displaying the words NOT FOR PARKING
- an audible warning device that operates when the driver's door is open while the device is activated and the parking brake is not fully applied.

19. A retarder or engine brake fitted **on or after 1 March 2007** does not have a control that can be operated from the driver's normal driving position.

20. A trailer - brake hand control does not:

a) apply the service brakes of the trailer(s), or

b) automatically return to its original position.

Prohibited equipment

21. A heavy vehicle has a device fitted that allows the driver to adjust the service brake force distribution between the axles or between the vehicles that are used in combination.

22. A service brake has more than one control (other than a separate trailer hand brake control or a vehicle converted to dual steering)

Condition

23. Refer to **general vehicle pages**.

24. A brake is not capable of being easily adjusted.

25. An adjustment indicator rod is:

a) missing, or

b) seized.

26. A brake component has excessive travel or stroke (eg as shown by an adjustment indicator rod or similar device).

27. A brake actuator (including a slack adjuster and associated components):

a) is insecure, or

b) is leaking air, or

c) is cracked, or

d) does not operate, or

e) is excessively worn or corroded, or

f) is not seated correctly.

28. A treadle valve, brake valve, reservoir, compressor or fluid pump:

a) is missing, or

b) is insecure, or

c) is cracked, or

d) is leaking air, or

e) does not operate or operates incorrectly, eg due to corrosion, damage,incorrect fitment or excessive travel, or

f) contains excessive amounts of foreign fluids (eg water or oil).

29. A compressor or pump drive belt is:

a) insecure, or

b) damaged, or

c) significantly deteriorated.

30. A brake lining or brake pad:

a) has obviously been replaced **on or after 1 March 2007** without all the linings or pads on the axle being replaced at the same time, or

b) is obviously of a different make, type or grade from another on the same axle.

31. A required service brake reservoir air pressure gauge is not readily visible to the driver (day and night) from the driver’s normal driving position (Note 6).

32. An air brake coupling device fitted to a heavy vehicle first registered in New Zealand on or after 1 March 2007 or fitted to a vehicle on or after that date:

a) is not robust, durable, or suitable for automotive application, or

b) is unable to prevent the incorrect connection of the control and supply lines, or

c) adversely affects the performance of the brake of either the towing or towed vehicle(s), or

d) does not have an effective break-away function, or

e) the coupling is not fitted as close as practicable to:

i. the centre-line of the vehicle, or

ii. the rear of the towing vehicle, or

iii. the towing connection by which the towed and towing vehicles are connected.

33. A brake pipe (including connections) is:

a) leaking, or

b) insecure, or

c) deformed from its original shape, or

d) chafed, or

e) corrosion damaged, eg there are signs of pitting or a noticeable increase in the pipe’s diameter, or

f) damaged so the cross-sectional area is reduced, or

g) fouled by moving parts.

34. A hose or plastic brake pipe (including connections):

a) is leaking, or

b) is insecure, or

c) bulges under pressure, or

d) is twisted or stretched, or

e) is cracked or chafed, eg the reinforcement cords are exposed, or

f) has metal components that are excessively corroded, or

g) fouled by moving parts.

35. A coiled nylon brake hose (suzie coil) does not have:

a) a straight hose section at the connector that is at least 50mm long, or

b) a spring guard adjacent to the end fittings capable of supporting and protecting the brake hose.

- While spring guards can vary in design and length they must remain in good condition, ie not have broken or looped coils.

36. An ABS plug or socket (see Figure 8-1-5)

a) is missing, or

b) has damaged, displaced or corroded pins, or

c) is otherwise broken or defective.

- Dismantling of the plug or socket is not required, visual inspection only.

Performance

Service brake (Note 7)

37. The service brake cannot be applied in a controlled and progressive manner.

38. When the service brake is applied and without assistance from the engine or other retarders:

a) the vehicle does not stop within seven metres from a speed of 30km/h (average brake efficiency of 50%) for a vehicle which has a service brake designed to act on at least four wheels, or

b) the vehicle does not stop within nine metres from a speed of 30km/h (average brake efficiency of 40%) for a vehicle first registered in New Zealand **before 1 February 1977** which has a service brake designed to act on fewer than four wheels, or

c) the vehicle does not stop within 20m from a speed of 30 km/h (average braking efficiency of 18%) or equivalent efficiency at its maximum speed for a vehicle manufactured **before 31 December 1918** and not capable of exceeding a speed of 30km/h.

39. When the service brake is applied:

a) the vehicle vibrates under braking to the extent that the control of the vehicle is adversely affected, or

b) the brake fails to release immediately after the brake pedal has been released, or

c) the directional control is affected (eg swerving to one side, or the brakes on one side apply more slowly than the other side), or

d) the brake balance, at any time above the threshold value, varies by more than 30% between wheels on a common axle.

40. The ABS or brake system warning lamp or self-check system, if fitted, indicates a defect in the ABS or brake system (does not apply to brake pad wear warning systems).

41. An ABS system is inoperative (Note 11).

Parking brake (Note 7)

42. When the parking brake is applied:

a) the vehicle does not stop within 18 m from a speed of 30 km/h (average brake efficiency of 20%), or

b) a vehicle fitted with a transmission/Cardan shaft park brake does not meet the minimum brake force required for its GVM (see Table 8-1-9 for brake force requirements)

c) it does not hold all the wheels on a common axle stationary against attempts to drive the vehicle away.

43. The parking brake is unusually difficult to apply or release.

Compressed air brake systems

44. Reservoir capacity: With the air pressure in the braking system at its maximum operational pressure as specified by the vehicle or brake manufacturer and the compressor stopped, the reserve of compressed air does not provide:

a) for a combination of heavy vehicles equipped with a towing vehicle protection valve (tractor protection valve) on the towing vehicle and an emergency or a breakaway valve on the trailer(s):

i. three full service brake applications with full release of the brakes before the low-pressure warning device operates, or before the emergency valve operates, and

ii. two full applications with full release of the brakes after the low-pressure warning device operates, or

b) For a single class NB or NC vehicle that complies with a Australian Design Rule 35 or European brake standard:

i. three full service brake applications, with full release of the brakes after each application, before the low-pressure warning device operates, and

ii. two full applications, with full release of the brakes, after the low-pressure warning device operates, or

c) For all other vehicles:

i. five full service brake applications, with full release of the brakes after each application, before the low-pressure warning device operates, and

ii. two full applications, with full release of the brakes, after the low-pressure warning device operates.

- A full service-brake application is considered to be made when the brake pedal is fully depressed and there is no further movement of the brake actuators.

45. Compressor capacity: At the maximum governed speed, or where the engine is not governed at a speed determined by the vehicle inspector, the compressor is not capable of raising the air pressure in the braking system to the maximum operating pressure specified by the vehicle or brake manufacturer, in the following times:

a) in not more than three minutes, starting from the pressure at which:

i. the low pressure warning device ceases to operate, or:

ii. the pressure at which the emergency brake operates, and

b) in not more than 90 seconds, starting from the pressure to which the brake system falls from the maximum specified operating pressure as a result of fully applying and releasing the service brakes:

i. five times for a single class NB or NC vehicle, or a heavy vehicle combination without a towing vehicle protection valve (tractor protection valve) and an emergency or breakaway valve on the trailer(s), or

ii. three times for heavy vehicle combinations with a towing vehicle protection valve (tractor protection valve) and an emergency or breakaway valve on the trailer(s).

46. A service brake reservoir air-pressure gauge does not operate correctly.

47. A required low-pressure warning device does not give a continuous signal, visible or audible, that clearly indicates to the driver when the pressure in any of the service brake circuits is below the minimum safe operating pressure unless the parking brake is fully applied or an automatic transmission is in the ‘park’ position (Note 8).

48. A required towing vehicle protection valve does not operate.

49. A required drain valve cannot be operated manually.

- Operation of drain valves must not require the use of tools.

50. A class NB or NC vehicle has more than one air service brake circuit and there is no protection between those circuits (Note 9).

51. On a vehicle that is certified to the **New Zealand Heavy-vehicle Brake Specification (HVBNZ)** the simultaneous application of the service brake and the spring parking brake results in the compounding of the two individual brake forces on that axle.

Modification and certification.

52. A vehicle in Table 8-1-6:

a) has not been certified as required by that table, or

b) has been modified so that recertification is required.

53. A modification that affects the brake system has not been inspected and certified by a heavy vehicle specialist certifier, unless the vehicle:

a) is exempted from the requirement for heavy vehicle specialist certification (Table 8-1-7), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Note 1 Definitions

Air brake means a brake, the operation of which requires the use of compressed air.

Anti-lock braking system (ABS) means a device that senses that one or more of the wheels is starting to lock-up during braking and regulates the braking forces automatically and effectively to prevent it.

Auxiliary brake means a device, other than a service brake or parking brake, fitted to a vehicle to enable the driver to control its speed, whether or not it is suitable to stop the vehicle.

Dedicated combination means a combination of vehicles certified for use in combination where both vehicles are affixed with a plate clearly and indelibly marked with the VIN or chassis number of the other vehicle.

Emergency brake in relation to any vehicle, or combination of vehicles, means the system that makes it possible to undertake a controlled stop of the vehicle or combination in the event of the failure of the service brake. (Emergency brakes must act as directly as practicable without any interposition of any differential gearing.)

Foundation brake means the basic brake assembly fitted to each axle or road wheel which produces the braking force necessary to bring a vehicle to a stop; and includes the complete drum or disc brake.

Hydraulic brake means a brake that utilises hydraulic pressure to activate the foundation brake, whether its operation is assisted by compressed air, vacuum or any other means.

Modify 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.

Parking brake means a brake that is designed for keeping the vehicle stationary, and that is readily applicable and capable of remaining applied for an indefinite period without further attention. (Hydraulic locking devices are not acceptable as parking brakes. The parking brake must be applied by solely mechanical means.)

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.

Reservoir for the purpose of the **Heavy-vehicle Brakes Rule**, means a device designed and constructed to store fluid, compressed air, compressed gas, or vacuum; and does not include pipes, valves, hoses, or booster cylinders operated by vacuum or compressed air.

Service brake means a brake for intermittent use that is designed for the purpose of slowing down and stopping the vehicle.

Trailer brake hand control means a hand-operated control capable of applying the service brake of the trailer or trailers.

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, which may be manufactured as one part, or permanently attached to each other, or detachable from each other; and includes the tyre fitted to the rim.

Note 2

For in-service inspections standards compliance must be verified when there is reason to believe a hose or flexible tubing does not comply or when it forms part of a brake modification or repair.

Note 3

A vehicle may be fitted with more than one gauge, but only one gauge that indicates the pressure in one service brake reservoir is necessary. A gauge fitted to a supply reservoir (wet tank) cannot be used to indicate the pressure in a service brake reservoir.

Note 4

Towing vehicle protection means a means by which the air brake system of a towing vehicle is protected from loss of air pressure in the event of failure of the trailer's brake system, or when the trailer becomes disconnected from the towing vehicle.

Note 5

Protection, in this case, means a system to prevent the operation or failure of the device lowering the pressure in any service brake reservoir below the pressure specified by the vehicle manufacturer or brake manufacturer or, if this information is not available, two-thirds of the maximum operational pressure specified by the vehicle manufacturer or brake manufacturer. (Air auxiliaries have to be inspected at Entry certification however they do not have to be tested for in-service inspection provided:

- they have been fitted as standard equipment by the vehicle manufacturer or their approved New Zealand agent, or
- they are connected to an auxiliary take-off point provided by the vehicle manufacturer).

Note 6

A pressure gauge must indicate the pressure in pressure units, or on a coloured scale, or in an equivalent way. The gauge display must be visible, though it may be multi-functional, ie have the ability to display various items including the air pressure.

Note 7

For the purpose of testing the brakes, the vehicle shall be presented with a load of at least 65% of the road legal limit, or be subject to equivalent load simulation (refer to the **NZ heavy vehicle brake test protocol**).

Note 8

Where the minimum safe operating pressure is not specified by the vehicle or brake manufacturer, the minimum safe operating pressure is taken as 50% of the correctly adjusted cut-out pressure for the compressor or governor.

Note 9

Protection, in this case, means a system to prevent a brake failure that lowers the pressure in one service brake circuit below the minimum safe operating pressure from lowering the pressure in any other service brake circuit below the minimum safe operating pressure or pressure specified by the vehicle manufacturer or brake manufacturer.

Note 10

A **supply reservoir (wet tank)** is a brake reservoir from which the service brake reservoirs receive compressed air.

Note 11

The ABS system must be cycled, this can be done by shutting down the vehicle engine and returning the ignition to 'on' only, observe ABS warning light operation and listen for a clicking or chuffing sound from the modulator or valve unit.

Check wheel sensors and pulse rings (if visible) and for trapped wiring or damaged air lines.

Table 8-1-2. Class NB and NC vehicles that must be fitted with an anti-lock braking system[1]

Class NB and NC vehicles
Imported vehicles • operated in a combination with a GM[2]>39 ?44 t, and • first registered in New Zealand after 1 March 2007 and before 1 July 2008, EXCEPT FOR – vehicles that comply with European standards[3] UNLESS fitted OE with ABS, and – logging vehicles UNLESS fitted OE with ABS, and – vehicles that comply with HVBS(2) or HVBC(2)
Imported vehicles • fitted with a towing connection for towing a heavy trailer, and • first registered in New Zealand on or after 1 July 2008, EXCEPT FOR – vehicles that comply with European standards[3] UNLESS fitted OE with ABS, and – logging vehicles UNLESS fitted OE with ABS

1 The OE fitting of an anti-lock braking system (ABS) indicates that it was probably required by the standard. The removal of an ABS is a modification and must be HVS certified.

2 GM means gross mass (see definitions in the Introduction)

3 A vehicle that complies with European standards is identified as HVBE on the Certificate of Loading. Refer to **Table 3-1-2-1** of the **LATIS agent's manual**.

Table 8-1-3. Emergency brake requirements for class NB and NC vehicles

All vehicles first registered in New Zealand on or after 1 November 1990 except those in the right hand column	Vehicles first registered in New Zealand 1 November 1990 to 31 December 1994 when the parking brake acts on the transmission and brakes not modified since manufacture
Full dual-circuit service brake**1**, and a) one of those circuits activates the brake on all the front wheels and the other circuit activates the brake on all the rear wheels, or b) each circuit activates the brake on at least one-third of the wheels**2**.	EITHER A full dual-circuit service brake**1**, and a) one of those circuits activates the brake on all the front wheels and the other circuit activates the brake on all the rear wheels, or b) each circuit activates the brake on at least one-third of the wheels**2** OR A dual-line service brake that is fitted with a tandem/dual master cylinder OR A single-line hydraulic service brake that is divided into two independent circuits through and excess flow-prevention valve, and the brake fluid reservoir is fitted with a low-level warning device.

1 For a hydraulic system, this means a dual or tandem master cylinder.

2 Both circuits together must activate the brake on all the wheels.

Table 8-1-4. Approved vehicle standards for brake hoses and flexible tubing[1]

All vehicles
SAE J844: Nonmetallic Air Brake System Tubing
SAE J1394: Metric Nonmetallic Air Brake System Tubing
SAE J1402: Automotive Air Brake Hose and Hose Assemblies
SAE J1403: Vacuum Brake Hose (supersedes SAE 40 R3)
British Standard AU 110: 1965, Specification for rubber hoses and hose assemblies for automotive air pressure brakes systems (withdrawn, revised)
British Standard AU 109: 1965, Specification for vacuum brake hose (heavy duty) of oil-resistant rubber (withdrawn)
Japan Industrial Standard D2606-80: Rubber hose for automotive air brake system
DIN 74324-1: 1996, Air braking systems – Thermoplastic tubing – Requirements and tests
DIN 73378: 1996, Polyamide tubing for motor vehicles
Federal Motor Vehicle Safety Standard No. 106: Brake hoses
SAE 40 R2 (A-E)
SAE 70 R3H
SAE 40 R3 L
SAE 40 R3 H
SAE R3 M
Nylon tubing of approved makes: Anson Plastics, Nylex, TWL

1 Hoses and tubing may comply with a more recent version of these standards if the safety performance of the vehicle is not adversely affected.

Refer also Figure 8-1-4.

Table 8-1-5. Air-braked class NB and NC vehicles that must have towing vehicle protection

Air-braked class NB and NC vehicles
Operated in a combination with a GM**1**>39 ?44 t, and • first registered in New Zealand after 1 March 2007 and before 1 July 2008, or • modified after 1 March 2007 and before 1 July2008.
Fitted with a towing connection for towing a heavy trailer, and • first registered in New Zealand on or after 1 July 2008, or • modified on or after 1 July 2008.

1GM means gross mass (see definitions in the **Introduction**).

Table 8-1-6. Heavy vehicle brakes: certification requirements for class NB and NC vehicles

Conditions applying	Requirements
Operated in a combination with a GM**2**>39 ?44 t, and • first registered in New Zealand before 1 March 2007, and • not modified on or after 1 March 2007 (includes vehicles modified before 1 March 2007)	Existing applicable certification: • IHVBS(1) Interim Performance Specification for Heavy Vehicle Braking, or • IHVBS(2) Heavy vehicle braking specification of 6 December 1998, or • HVBC(1) Heavy Vehicle Brake Code, First Edition 1991, or • HVBC(2) Heavy vehicle brake code, second edition
Modified**3** in New Zealand 1 March 2007–30 June 2008, and • operated in a combination with a GM**2**>39 ?44 t.	Applicable certification: • IHVBS(2) Heavy vehicle braking specification of 6 December 1998, or • HVBC(2) Heavy vehicle brake code, second edition, or • HVBNZ New Zealand heavy vehicle brake specification**1**
Modified**3** in New Zealand 1 March 2007–30 June 2008	Heavy vehicle specialist certification
Modified**3** in New Zealand on or after 1 July 2008, and without towing connection for towing a heavy trailer.	Applicable certification: • HVBNZ New Zealand heavy vehicle brake specification**1**, or • 6.1(2)(b) of Heavy Vehicle Brake Rule (stopping tests)**1**
Modified**3** in New Zealand on or after 1 July 2008, and with a towing connection for towing a heavy trailer. When an alteration or modification requires brake certification, the lead HVSC for a project must ensure that brake certification is carried out and that an HVEK LT400 is issued prior to HVSC certification for the finished project. The responsibility for obtaining brake certification cannot be delegated to another certifier or the vehicle owner or any other entity.	Applicable requirements: • Brake modification LT400, or • Towing connection LT400, or • Chassis modification LT400

1 Except that a vehicle that originally complied with one of the approved vehicle standards for brakes and that is modified by fitting an additional axle, removing an axle, replacing an axle with one that is not of the same make and model, or replacing the brake of an axle with one that is not of the same make and model may be modified so as to

continue to meet the technical and performance requirements of the approved vehicle standard for brakes with which it originally complied. (A heavy vehicle specialist certifier is required to certify compliance).

2

8-2 Heavy vehicle brake code

See also **Heavy vehicle brake testing: CoF and entry certification brake test protocol and procedure**

Reasons for rejection

Mandatory requirement

1. A vehicle that has been certified to the Heavy Vehicle Brake Code does not have a label stating that the vehicle complies with either NZHVBC first or second edition.

2. An NZHVBC label:

a) is missing, or

b) is illegible, or

c) does not match the vehicle, or

d) has obvious signs of tampering, or

e) is not affixed as close as practicable to the vehicle manufacturer's identification plate.

Mandatory equipment

Service brake

3. Refer to heavy vehicles, **section 8-1**.

Parking brake

4. A heavy vehicle does not have a parking brake.

5. A vehicle that was first registered in New Zealand on or after 1 November 1990 does not have a park brake that acts on at least half of the wheels.

Emergency brake

6. A vehicle does not have an emergency brake combined with either:

a) the parking brake, or

b) the service brake.

7. A vehicle that was first registered in New Zealand on or after 1 November 1990 does not have an emergency brake that acts on at least half of the wheels.

8. The emergency brake is not operable from the driving seat while keeping at least one hand on the steering control.

Hoses or other flexible tubing

9. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

10. Refer to heavy vehicles, **section 8-1**.

11. The vehicle is not fitted with air pressure gauges which indicate the pressure in each independent service brake air reservoir.

12. A vehicle equipped with compressed air operated service brakes is not equipped with an audible low pressure warning device.

13. A vehicle does not have a tractor protection valve.

14. Air connections between all towing vehicles and trailers are not of the two line system using a one piece coupling, eg:

a) a duomatic coupling, or

b) a triomatic coupling where an auxiliary air supply (separate from the braking system) is required for a trailer.

15. The coupling housing (eg duomatic or triomatic) is not situated close to the centre line (preferably to the right hand side of the centre, ie driver's side).

16. The air lines are not installed so that when facing the cover of the female section of the coupling housing:

a) the control (service) line is not on the left side of the housing, and coloured blue or black within 150mm of the coupling or junction, and

b) the supply (emergency) line is not on the right side of the housing, and coloured red or yellow within 150mm of the coupling or junction.

17. A service brake or parking brake reservoir, including any wet tank in an air brake system:

a) is not fitted with a condensate drain valve at the lowest point, or

b) is fitted with an automatic condensate valve that does not have provision for manual operation.

Note Operation of drain valves must not require the use of tools.

Permitted equipment

18. Refer to heavy vehicles, **section 8-1**.

19. A manually operated push/pull valve that is used to apply the park brakes on the towing vehicle or trailer separately is not adequately guarded to prevent accidental operation during an emergency.

20. A manually operated push/pull valve that is used to apply the combination's park brakes is not coloured yellow.

Prohibited equipment

21. Refer to heavy vehicles, **section 8-1**.

Condition

22. Refer to heavy vehicles, **section 8-1**.

23. A brake lining or brake pad:

a) has been replaced without all the linings or pads on the axle being replaced at the same time, or

b) does not comply with the NZHVBC (Note 1)

24. A service brake reservoir air pressure gauge is not readily visible to the driver (day and night) from the driver's normal driving position.

Performance

Service brake

25. Refer to heavy vehicles, **section 8-1**.

Parking brake

26. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

27. Refer to heavy vehicles, **section 8-1**.

28. An air pressure gauge does not operate correctly.

29. A low pressure warning device does not give a continuous audible signal that clearly indicates to the driver when the pressure in any of the service brake circuits is below the minimum safe operating pressure recommended by the manufacturer unless the park brake is fully applied and the automatic transmission is in the 'park' position.

30. A tractor protection valve does not operate.

31. A drain valve is not able to be operated manually.

Note Operation of drain valves must not require the use of tools.

32. The individual brake forces of the service brake and spring parking brake are able to be compounded.

Modification and certification (Note 1)

33. Refer to heavy vehicles, **section 8-1**.

Note 1

If there is reason to believe that a component does not meet the requirements of the NZHVBC then the vehicle inspector must require the brake maintenance records to be produced.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Heavy-vehicle Brakes 2006**, including:
- **Heavy Vehicle Brake Code, first edition (1991)**
- **Heavy Vehicle Brake Code, second edition (June 1997)**.

Mandatory requirement

1. A vehicle that has been certified to the Heavy Vehicle Brake Code (first edition) prior to 31 August 1997 must have a label affixed to the vehicle, adjacent to the vehicle manufacturer's identification plate stating that the vehicle complies with "NZHVBC, dated 1991"

2. A vehicle that has been certified to the Heavy Vehicle Brake Code (second edition) on or after 31 August 1997 and before 1 July 2008 must have a label of permanent material affixed to the vehicle, as close as practicable to the vehicle manufacturer's identification plate. The label must include the words "NZHVBC Edition No. 2".

Mandatory equipment

Service brake

3. Refer to heavy vehicles, **section 8-1**.

Parking brake

4. A vehicle must have a parking brake.

5. A vehicle that was first registered in New Zealand on or after 1 November 1990 must have a park brake that acts on at least half of the wheels.

Note Spring brakes are the preferred type of park brake.

6. A parking brake must be able to be applied by the driver from the normal driving position.

Emergency brake

7. A vehicle must have an emergency brake which may be combined with the parking brake or the service brake.

8. A vehicle that was first registered in New Zealand on or after 1 November 1990 must have an emergency brake that acts on at least half of the wheels.

9. The emergency brake must be operable from the driving seat while keeping at least one hand on the steering control.

Hoses or other flexible tubing

10. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

11. Refer to heavy vehicles, **section 8-1**.

12. The service brake air system of vehicles first registered in New Zealand on or after 1 November 1990 must have at least two completely independent brake actuating circuits, each with its own air reservoir.

13. Gauges must be fitted to indicate to the driver the pressure in each independent service brake air reservoir and be visible to the driver from the normal driving position

14. Every vehicle equipped with compressed air operated service brakes and where the prescribed emergency braking performance cannot be achieved without the use of the compressed air, the air reservoirs must be equipped with a low pressure alarm device. The low pressure alarm may be rendered inoperative while the parking brake is applied and the selector is in the park position in vehicles fitted with an automatic transmission.

15. The service brake system of the towing vehicle must incorporate a tractor protection valve to preserve the integrity of the brake system should the trailer's brake system fail.

16. A pressure test connection must be fitted to the air inlet of the least favourably placed brake chamber (or pneumatic device in the case of part pneumatic brake systems) on each independent circuit of the braking system.

17. Air connections between all towing vehicles and trailers must be of the two line system using a one piece coupling, eg a duomatic coupling, or when an auxiliary air supply (separate from the braking system) is required for a trailer, a triomatic coupling .

18. The coupling housing (eg duomatic or triomatic) must be situated close to the centre line, preferably to the right hand side (ie driver's side) of centre.

19. The control (service) and supply (emergency) air lines must be installed so that when facing the cover of the female section of the coupling housing:

a) the control (service) line must be on the left side of the housing, and coloured blue or black within 150mm of the coupling or junction, and

b) the supply (emergency) line must be on the right side of the housing, and coloured red or yellow within 150mm of the coupling or junction.

20. Each reservoir in an air brake system must be fitted with a condensate drain valve at the lowest point.

21. Where an automatic condensate valve is fitted, it must have a provision for manual operation.

Permitted equipment

22. Refer to heavy vehicles, **section 8-1**.

23. A vehicle may be fitted with additional manually operated push/pull valves that are used to apply the park brakes on the towing vehicle or trailer separately provided these valves are adequately guarded to prevent accidental operation during an emergency.

24. A vehicle may be fitted with an additional manually operated push/pull valve that is used to apply the combination's park brakes provided it is coloured yellow.

Prohibited equipment

24. Refer to heavy vehicles, **section 8-1**.

Condition

25. Refer to heavy vehicles, **section 8-1**.

26. Brake linings or brake pads must be replaced as axle sets.

Performance

27. Refer to heavy vehicles, **section 8-1**.

Service brake

28. Refer to heavy vehicles, **section 8-1**.

Parking brake

29. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

30. Refer to heavy vehicles, **section 8-1**.

31. A low pressure alarm device must sound loudly when the brake air reservoir pressures fall below the minimum safe operating pressure recommended by the manufacturer.

32. The low pressure alarm may be rendered inoperative while:

a) the park brake is applied, and

b) the selector is in the park position in vehicles fitted with an automatic transmission.

33. The brake systems must not compound their individual brake forces.

Modification and certification

34. Refer to heavy vehicles, **section 8-1**.

Page amended **1 November 2019** (see **amendment details**).

8-3 Interim heavy vehicle braking specification

See also **Heavy vehicle brake testing: CoF and entry certification brake test protocol and procedure**

Reasons for rejection

Mandatory requirement

Service brake

1. Refer to heavy vehicles, **section 8-1**.

2. The service brake does not act on each axle.

Parking brake

3. Refer to heavy vehicles, **section 8-1**.

4. The parking brake does not act on at least half of the vehicle's axles.

Emergency brake

5. The vehicle does not have an emergency brake.

6. The emergency brake:

a) does not act on at least half of the vehicle's axles, or

b) is not operable from one control within easy reach of the driver in his normal seating position.

Hoses and other flexible tubing

7. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

8. Refer to heavy vehicles, **section 8-1**.

9. Air connections between the towing and towed vehicles are not of the two-line type (excluding auxiliaries).

10. Air connections between the towing and towed vehicles that are physically capable of being incorrectly connected are not colour-coded, ie:

a) the control (service) line is not coloured yellow, green or blue, or

b) the supply (emergency) line is not coloured red.

11. The couplings used for the air connections between the towing and towed vehicles:

a) are not mounted on the longitudinal centre-line of the vehicle, or as close to it on the right-hand side, or

b) do not have the control (service) line to the left of the vehicle, ie the curb side, or

c) do not have the supply (emergency) line to the right of the vehicle, ie the driver's side.

Permitted equipment

12. Refer to heavy vehicles, **section 8-1**.

Prohibited equipment

13. Refer to heavy vehicles, **section 8-1**.

Condition

14. Refer to heavy vehicles, **section 8-1**.

Performance

Service brake

15. Refer to heavy vehicles, **section 8-1**.

Parking brake

16. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

17. Refer to heavy vehicles, **section 8-1**.

Modification and certification (Note 1)

18. Refer to heavy vehicles, **section 8-1**.

Note 1

If there is reason to believe that the vehicle has been modified since it was certified to the Interim Heavy Vehicle Braking Specification then the vehicle inspector must refer to the details shown on the vehicle's data sheet (form 4067A) issued at the time of certification.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy-vehicle Brakes 2006
- Heavy Motor Vehicle Regulations 1974, Reg. 16A
- Interim Heavy Vehicle Braking Specification (6 December 1988).

Mandatory equipment

Service brake

1. Refer to heavy vehicles, section 8-1.

2. The service brake must operate on each axle.

Parking brake

3. Refer to heavy vehicles, section 8-1.

4. The park brake must act on at least half of the axles on each vehicle.

Emergency brake

5. The vehicle must have an emergency brake system, which is substantially independent of the service braking system.

6. The emergency brake must:

a) act on at least half of the axles on each vehicle, and

b) be operable from one control within easy reach of the driver in his normal seating position.

Hoses and other flexible tubing

7. Refer to heavy vehicles, section 8-1.

Compressed air brake systems

8. Refer to heavy vehicles, section 8-1.

9. Air connections between the towing and towed vehicles must be of the two-line type (excluding auxiliaries).

10. Air connections between the towing and towed vehicles that are physically capable of being incorrectly connected shall be colour-coded as follows:

a) the control (service) line must be coloured yellow, green or blue, and

b) the supply (emergency) line must be coloured red.

11. The couplings used for the air connections between the towing and towed vehicles must:

a) be mounted on the longitudinal centre-line of the vehicle, or as close to it on the right-hand side, and

b) have the control (service) line to the left of the vehicle, ie the curb side, and

c) have the supply (emergency) line to the right of the vehicle, ie the driver's side.

Permitted equipment

12. Refer to heavy vehicles, **section 8-1**.

Prohibited equipment

13. Refer to heavy vehicles, **section 8-1**.

Condition

14. Refer to heavy vehicles, **section 8-1**.

Performance

Service brake

15. Refer to heavy vehicles, **section 8-1**.

Parking brake

16. Refer to heavy vehicles, **section 8-1**.

Emergency brake

17. Refer to heavy vehicles, **section 8-1**.

Compressed air brake systems

18. Refer to heavy vehicles, **section 8-1**.

Modification and certification

19. Refer to heavy vehicles, **section 8-1**.

9 Steering and suspension

9-1 Steering and suspension systems

Reasons for rejection

Reasons for rejection

Mandatory equipment

1. Refer to **general vehicle pages**.

Condition

2. Refer to **general vehicle pages**.

3. An axle-stop has been removed, or its condition is such that it may not be effective.

Performance

4. Refer to **general vehicle pages**.

Modification and repair

5. A modification or repair affects the steering and suspension system and:

a) is not excluded from the requirements for HVS certification (Table 9-1-2), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii.the vehicle was modified or repaired since the last CoF inspection and no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Note 1 Definitions

Axle-stop device means a device to control the movement of the axle in the event of suspension failure (eg a shackle stop, security strap [SAF] or catch strap [BPW]).

Note 2

Steering system means those components, parts and systems that connect the driver's controls to a vehicle's wheels or tracks by means of which the direction of motion of a vehicle is controlled.

Note 3

Suspension system means a system that allows controlled and limited movement of an axle relative to the chassis or body of a vehicle; and includes a spring and damping system and any associated controls.

Table 9-1-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Left- to right-hand drive or dual-steering conversion. 2. A steering or suspension system that is modified, including a replacement system that is not identical to the system fitted by the vehicle manufacturer. 3. The steering system of a vehicle to which a second steering axle is fitted to form a twin-steer axle set. 4. Any components showing successive repairs.	1. Any modification or repair likely to have been carried out before 1 January 1997. (Modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required.) 2. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Dimensions and Mass 2002**
- **Land Transport Rule: Heavy Vehicles 2004**.

Mandatory equipment

1. Refer to **general vehicle pages**.

Permitted equipment

2. Refer to **general vehicle pages**.

3. A vehicle may be fitted with an axle-stop device.

4. A vehicle may be fitted with a ballrace turntable.

Condition

5. Refer to **general vehicle pages**.

6. The suspension system must have adequate strength for all conditions of loading and operation for which the vehicle was constructed.

7. An axle-stop device fitted to a vehicle must be within safe tolerance of its original condition.

Performance

8. Refer to **general vehicle pages**.

9. The suspension system must have performance characteristics for all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

10. A modification or repair that affects the steering or suspension system must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 9-1-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**).

10 Tyres, wheels and hubs

10-1 Tyres and wheels

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

2. On a groundspreader or dedicated groundsprayer fitted with multiple tyre sets that are made up of tyres of different size or construction:

a) the tyre sets are not fitted so that those fitted at one end of the axle mirror those fitted at the other end of the axle.

3. The tyres on an axle do not meet at least one of the following:

a) the tyre ply ratings:

i. are the same on a class MD3 vehicle

ii. differ by no more than two on a vehicle of other than class MD3

b) the tyre load indices:

i. differ by no more than two on a class MD3 vehicle

ii. differ by no more than six on a vehicle of other than class MD3

c) where no load index is indicated, the tyre load ratings (kg) on an axle differ by no more than 21% of the lowest rating.

Condition

4. Refer to **general vehicle pages**.

5. A tyre shows damage that is likely to compromise its ability to operate in a safe manner or lead to premature tyre failure, such as:

a) a lump or bulge that is likely to be caused by separation of the tyre structure, or

b) a cut or crack in a side wall or tread more than 25mm long that reaches the cords (see (Note 2) for visible cords in the tread area of heavy vehicle radial-ply tyres), or

c) exposed or cut cords (see (Note 2) for visible cords in the tread area of heavy vehicle radial-ply tyres), or

d) the tread of a retreaded tyre shows signs of separation, or

e) nails or other sharp objects embedded in the tyre, or

f) significant perishing, eg due to age, moisture or exposure.

Modification and repair

6. A modification or repair affects the tyres and wheels and:

a) is not excluded from the requirements for HVS certification (Table 10-1-4), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Note 1 Definitions:

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 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’).

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.

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.

Protective belt, sometimes called a **protective ply** or **breaker**, means an optional layer of ply material (cords) located immediately under the tread to minimise damage to the structural belts beneath.

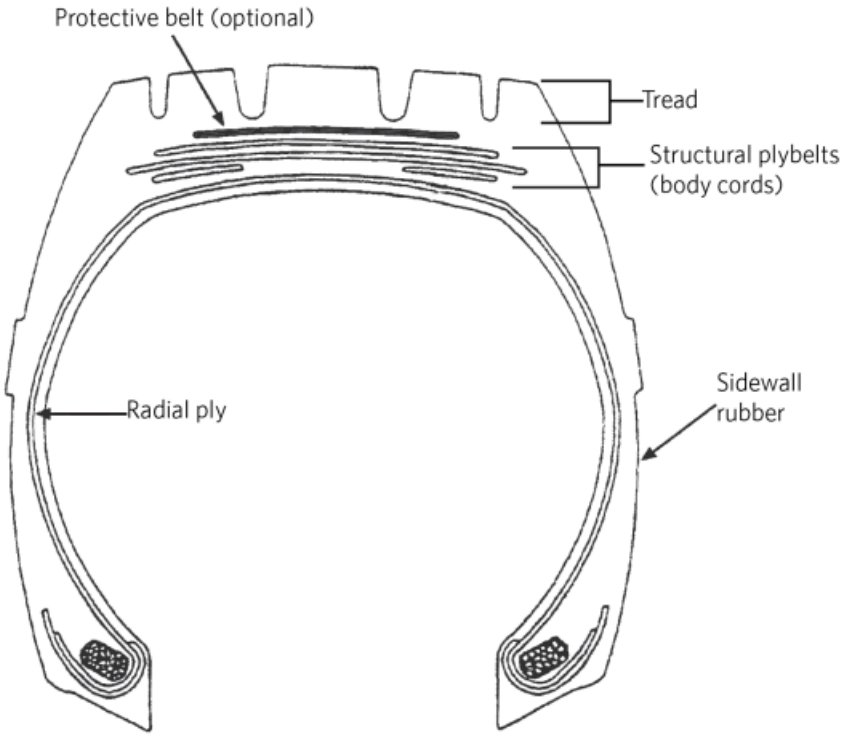
Note 2

Where a heavy vehicle radial-ply tyre has visible cords in the tread area, the vehicle inspector may pass such a tyre for CoF provided the tyre is in a safe condition, eg only the protective cord layer (protective belt, see Figure 10-1-5) is visible. When determining whether such a tyre is in a safe condition, the vehicle inspector may take into account written evidence from a person who has current specialist tyre knowledge and experience, particularly in heavy vehicle tyre inspection.

Table 10-1-4. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Increase of track width beyond vehicle manufacturer's specified limits. 2. Fitting of tyres additional to the limit specified by the vehicle manufacturer. 3. Modified wheels (including fitting of different rims).	1. Modified wheels with written evidence from the vehicle manufacturer that the complete assembly of tyre, hub and axle is within the vehicle manufacturer's operating limits. Such approval is likely to contain the approved tyre and wheel sizes and the maximum track, separately for all axles, together with the maximum number of wheels fitted to one axle, and may also include a few restrictions such as reduced axle load and so on (see **Technical bulletin (CoF) 2**). 2. Retrofitting a tyre pressure control system in accordance with the equipment manufacturer's instructions. 3. Fitting a regrooved tyre identified as specifically designed and constructed for the process of regrooving after manufacture.
	4. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required). 5. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Figure 10-1-5. Cross-sectional representation of a heavy vehicle radial-ply tyre



Summary of legislation

Applicable legislation

- **Land Transport Rule: Tyres and Wheels 2001**
- **Goods Service Vehicle (Constructional) Regulations 1936**.

Mandatory and permitted equipment

1. Refer to **general vehicle pages**.

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 the other multiple tyre set on the same axle.

Condition

3. Refer to **general vehicle pages**.

4. A heavy vehicle radial-ply tyre may have visible cords in the tyre tread area provided the tyre is in a safe condition. To assess whether such a tyre is in a safe condition, the vehicle inspector may take into account written evidence from a person who has current specialist tyre knowledge and experience, particularly in heavy vehicle tyre inspection.

Modification and repair

5. A modification or repair that affects the tyres or wheels must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 10-1-4), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**)

10-1 Hubs and axles

Reasons for rejection

Mandatory and permitted equipment (Note 1)

1. A rigid heavy vehicle is not supported by:

a) a single or twin-steer axle set at the front, or

b) a single, tandem or tri-axle set at the rear.

2. An axle set, other than a twin-steer axle set, is not load sharing.

3. The manufacturer's plate for a tandem axle set (except for a tandem axle set in a heavy passenger service vehicle) with a twin-tyred axle and a large single-tyred axle (where these were fitted from 1 July 2002):

a) is missing, or

b) is not legible, or

c) does not show:

i. the load-share ratio of the axle set, or

ii. a ratio that is either 60:40 or 55:45, or

iii. the tyre size on each axle, or

iv. the maximum individual axle ratings, or

d) has details that do not match the vehicle.

4. A heavy vehicle is fitted with one or more rear steering axles, and the vehicle is not one of the following types:

a) a mobile crane

b) the rear unit of an articulated bus

c) a rigid vehicle without a heavy tow coupling, provided that no more than half of the axles within the rear axle set steer at any one time

d) a specialist vehicle designed to transport overdimension or overweight load, or to primarily carry out a specialist function that requires overdimension equipment.

5. A mobile crane does not have at least either a non-steering axle or a steering axle capable of being locked so that it is non-steering.

6. A heavy vehicle is presented towing an A-train or B-train and is fitted with a retractable axle in its rear axle set.

7. A device for altering the distribution of mass between axles has been fitted to the vehicle when:

    a) the device does not lift an unpowered axle clear of the ground, or

    b) the device reduces the mass carried by an unpowered axle without lifting it clear of the ground, but the device:

        i. does not have a spring-loaded control, ie when the control is released, the mass on the unpowered axle does not revert to what it was before the operation of the control, or

        ii. does not have a control with an automatic timing device with an activation time of not more than two minutes after which the mass on the unpowered axle reverts automatically to what it was before the operation of the control, and with a non-activation time of at least 30 seconds during which the control cannot be activated again.

8. A sliding axle set is not fitted with both:

    a) an effective locking device to prevent inadvertent extension or separation, and

    b) endstops at the end of the slideway to prevent separation of the sliding parts if the primary locking device fails.

Condition

9. Refer to **general vehicle pages**.

10. A sliding axle assembly has deteriorated, eg:

    a) a chassis rail/guide, locking pin or other component is missing, deformed, cracked or otherwise worn or damaged, or

    b) a locking pin is too small or too short, or

    c) there is an air leak from the lock pin air ram.

11. A locking of a sliding axle locking device is either:

    a) not readily verifiable by visual inspection, or

    b) the vehicle is not equipped with a visual or audible alarm to warn the driver if the axle is not locked in one of the locking positions (Note 2).

12. A sliding axle locking device is bent, worn or otherwise damaged, or has deteriorated so that it is not effective.

13. A sliding axle locking device does not operate correctly.

14. A sliding axle endstop is:

    a) missing, or

    b) insecure, or

    c) damaged.

Performance

15. Refer to **general vehicle pages**.

Modification and repair

16. A modification or repair affects the hubs or axles and:

a) is not excluded from the requirements for HVS certification (Table 10-2-2), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Note 1

For specialist overdimension vehicles, none of the equipment Reasons for rejection or Summaries of legislation apply except numbers 2 and 7, that is axle sets must be load sharing, and axle mass redistribution devices must meet specified requirements.

Note 2

An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

Note 3 Definitions

Load-sharing axle set means an axle set suspension system that has effective damping characteristics on all axles of the set and is built to divide the load between the tyres on the set so that no tyre carries a mass more than 10% greater than the mass it would carry if:

a) the load were divided in the axle set so that each tyre carries an equal load, or

b) the axle set is a tandem-axle set comprising a twin-tyred axle and a large single-tyred axle and is built to divide the load between the tyres on the set so that:

i. 60% of the load is borne by the twin-tyred axle and 40% of the load is borne by the large single-tyred axle, or

ii. 55% of the load is borne by the twin-tyred axle and 45% of the load is borne by the large single-tyred axle.

Retractable axle means an axle that has a convenient adjustment to allow the axle load distribution of the axle set to be varied substantially. An axle that is retracted is not considered to be part of the axle set.

Specialist overdimension vehicle means:

a) a vehicle designed primarily to transport overdimension or overweight loads, or

b) a vehicle whose primary purpose is to carry out a specialist function that requires overdimension equipment, and

i. dismantling of the vehicle's equipment would make the equipment unusable for its intended purpose, or

ii. it would take more than four hours to dismantle the vehicle's equipment.

Table 10-2-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. An axle that is modified, including a replacement axle that is not identical to the one fitted by the vehicle manufacturer. 2. Fitting of an additional axle. 3. A retractable axle.	1. Any modification or repair likely to have been carried out before 1 January 1997, (modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required). 2. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, reputable workshop).

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Dimensions and Mass 2002
- Land Transport Rule: Heavy Vehicles 2004.

Mandatory and permitted equipment (Note 1)

1. A rigid heavy vehicle must be supported by a front single or twin-steer axle set, and by a rear single, tandem or tri-axle set.

2. The axle sets, except a twin-steer axle set, of a heavy vehicle must be load sharing.

3. A tandem-axle set (except for a tandem axle set in a heavy passenger service vehicle) with a large single-tyred axle must have a manufacturer's indelible plate clearly visible to the person weighing the vehicle that specifies the:

a) load-share ratio of the axle set of 60:40 or 55:45, and

b) tyre size on each axle, and

c) maximum individual axle ratings.

4. A heavy vehicle must not have any rear steering axles, except if the vehicle is:

a) a mobile crane, or

b) the rear unit of an articulated bus, or

c) a rigid vehicle without a heavy tow coupling provided no more than half the axles within the rear axle set steer at any one time, or

d) a specialist vehicle designed to transport overdimension or overweight loads, or to primarily carry out a specialist function that requires overdimension equipment.

5. A mobile crane must have at least one rear axle capable of being locked so that it is non-steering.

6. A heavy vehicle not towing an A-train or B-train may have a retractable axle in its rear axle set.

7. A device for altering the distribution of mass between axles may only be fitted to a vehicle if the device:

a) lifts an unpowered axle clear of the ground, or

i. reduces the mass carried by an unpowered axle without lifting it clear of the ground, and

ii. is a control that is spring loaded, so that when the control is released the mass on the unpowered axle reverts to what it was before the operation of the controls, or

b) has a control with an automatic timing device with an activation time of not more than two minutes after which the mass on the unpowered axle reverts automatically to what is was before the operation of the control, and with a non-activation time of at least 30 seconds during which the control cannot be activated again.

8. A sliding axle set must be fitted with both:

a) an effective locking device to prevent inadvertent separation or extension, and

b) endstops at the end of the slideway to prevent the separation of the sliding parts if the primary locking device fails.

Permitted equipment

9. A vehicle may be fitted with a ballrace turntable.

Condition

10. Refer to **general vehicle pages**.

11. An axle fitted to a vehicle must have adequate strength and performance characteristics for all conditions of loading and operation for which the vehicle was constructed.

12. The locking of a sliding axle locking device must be readily verifiable by visual inspection, or the vehicle must be equipped with a visual or audible alarm to warn the driver if the equipment is not locked in one of the locking positions.

Performance

13. An alarm must be visible or audible from the driver's seating position , and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

14. If the sliding axle set locking device incorporates a system that provides energy for its operation, the device must remain fully engaged in the locking position, or the locking action must be initiated immediately, if the energising system fails.

15. Refer to **general vehicle pages**.

Modification and repair

16. A modification or repair that affects the hubs or axles must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 10-2-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2024** (see **amendment details**).

10-3 Mudguards

Reasons for rejection

Mandatory equipment

1. A mudguard over a road wheel is missing where it is reasonable and practicable to fit a mudguard, unless the vehicle is:

    a) in an unfinished condition legally used under the authority of trade plates, or

    b) not capable of exceeding a speed of 30km/h, or

    c) has a valid mudguard exemption issued by the New Zealand Hot Rod Association (Figure 10-3-4).

2. A mudguard does not cover the full tread width (Note 2) of a tyre or tyres fitted to a road wheel (Figure 10-3-1 and Figure 10-3-2), except when the mudguard is fitted to a vehicle designed for industrial purposes and it is not practicable to fit a full mudguard due to the vehicle's construction.

3. On a vehicle with twin or close-spaced multiple tyres a mudguard fitted over a wheel on the rear axle is more than one-third higher than the horizontal distance between the vertical lines of the lowest point of the mudguard and the centre of the wheel (Figure 10-3-3), except when:

    a) the mudguard is fitted to a vehicle designed for industrial purposes and it is not practicable to fit a full mudguard due to the vehicle's construction.

4. A truck used for transporting round timber does not have mudguards over steer axles (Figure 10-3-6).

5. A truck used for transporting round timber does not have at least partial guards fitted to the front and rear tyres of the drive axle set (Figure 10-3-6).

Mudguard condition

6. A mudguard is not securely fixed to the vehicle.

7. A mudguard is so constructed or damaged that it is likely to present a hazard to road users (Note 2).

Modification (see also Introduction 3.1.2: Note 3)

8. A modification affects a mudguard, and:

    a) is not excluded from the requirements for LVV specialist certification (Table 10-3-1), and

    b) is missing proof of LVV specialist or accepted overseas certification, ie:

        i. the vehicle is not fitted with a valid LVV certification plate, or

        ii. the operator is not able to produce a valid modification declaration or authority card, or

        iii. the vehicle has not been certified to an accepted overseas system as described in Technical bulletin 13.

Note 1 Definitions

Mudguard means a fitting, inclusive of any portion of the vehicle and of any mudflaps attached, that serves to intercept material thrown up by a wheel more or less in the plane of the wheel.

Tyre tread means the portion of a tyre that contacts the road.

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

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment to within safe tolerance of its condition when manufactured, including replacement with undamaged or new structures, systems, components or equipment.

Note 2

Damage on full mudguards fitted to logging trucks is permissible if it is above a horizontal line on top of the tyre (Figure 10-3-5), and that damage is unlikely to result in the mudguard presenting a hazard to road users.

Table 10-3-1. Modifications that do not require LVV certification

Fitting of or modification to	LVV certification is not required provided that:
Modified mudguards, including flared wheel arches or the addition of mudguard extensions	• A mudguard has not been cut during modification, and • modified mudguards or extensions have no sharp protrusions, and • mudguard extensions are securely attached to the vehicle, and • the mudguard/mud flap is no less effective than OE. **Note**: Mudguards flared via rolling do not require certification.
Fitting of or modification to	**LVV certification is never required:**
Any modification for the purposes of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Figure 10-3-1. Position of individual mudguard in relation to tyre tread

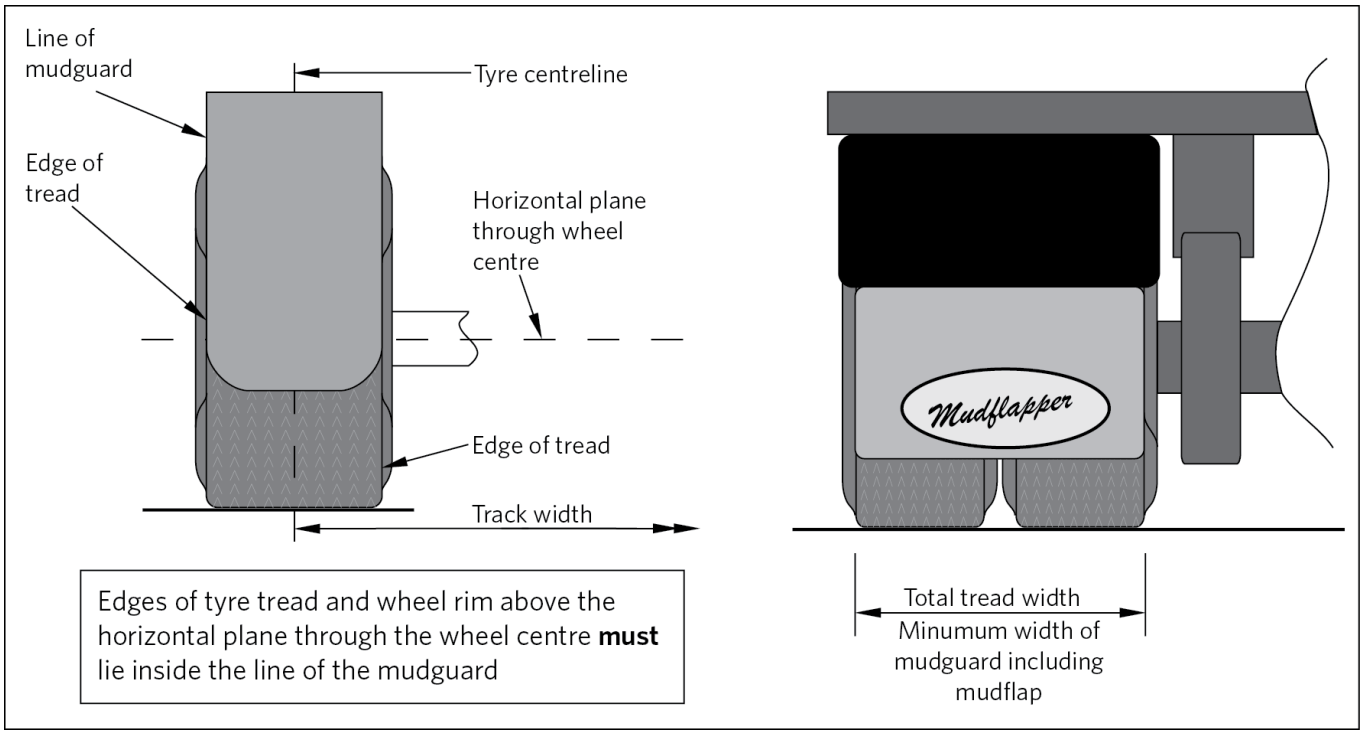


Figure 10-3-2. Position of body panel mudguard in relation to tyre tread

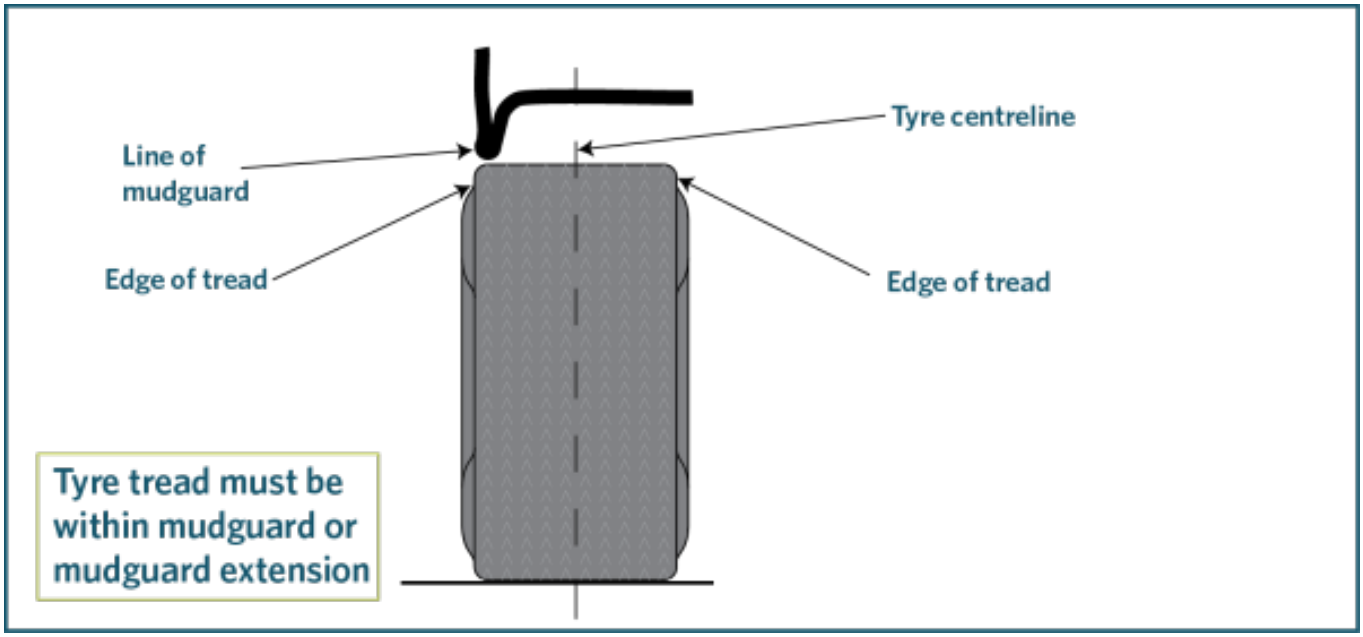


Figure 10-3-3. Size and position of mudguards for the rear wheels of a vehicle fitted with dual wheels or close-spaced multiple wheels

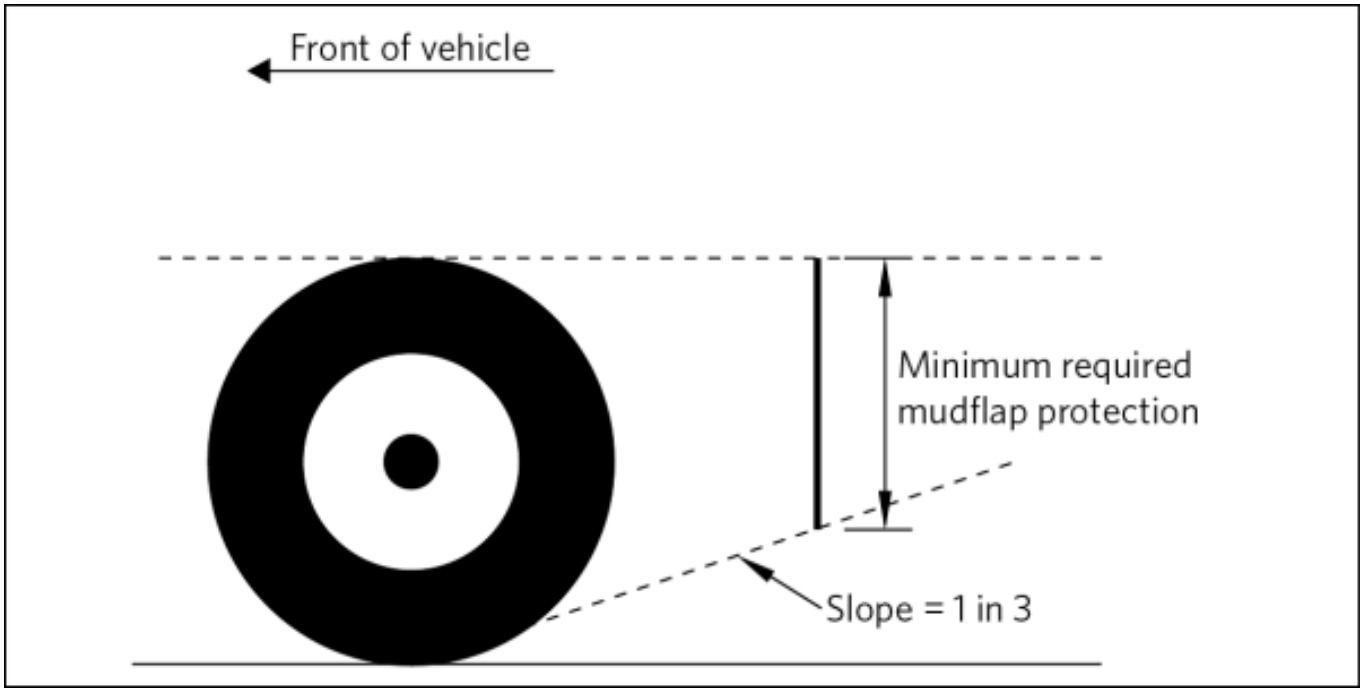
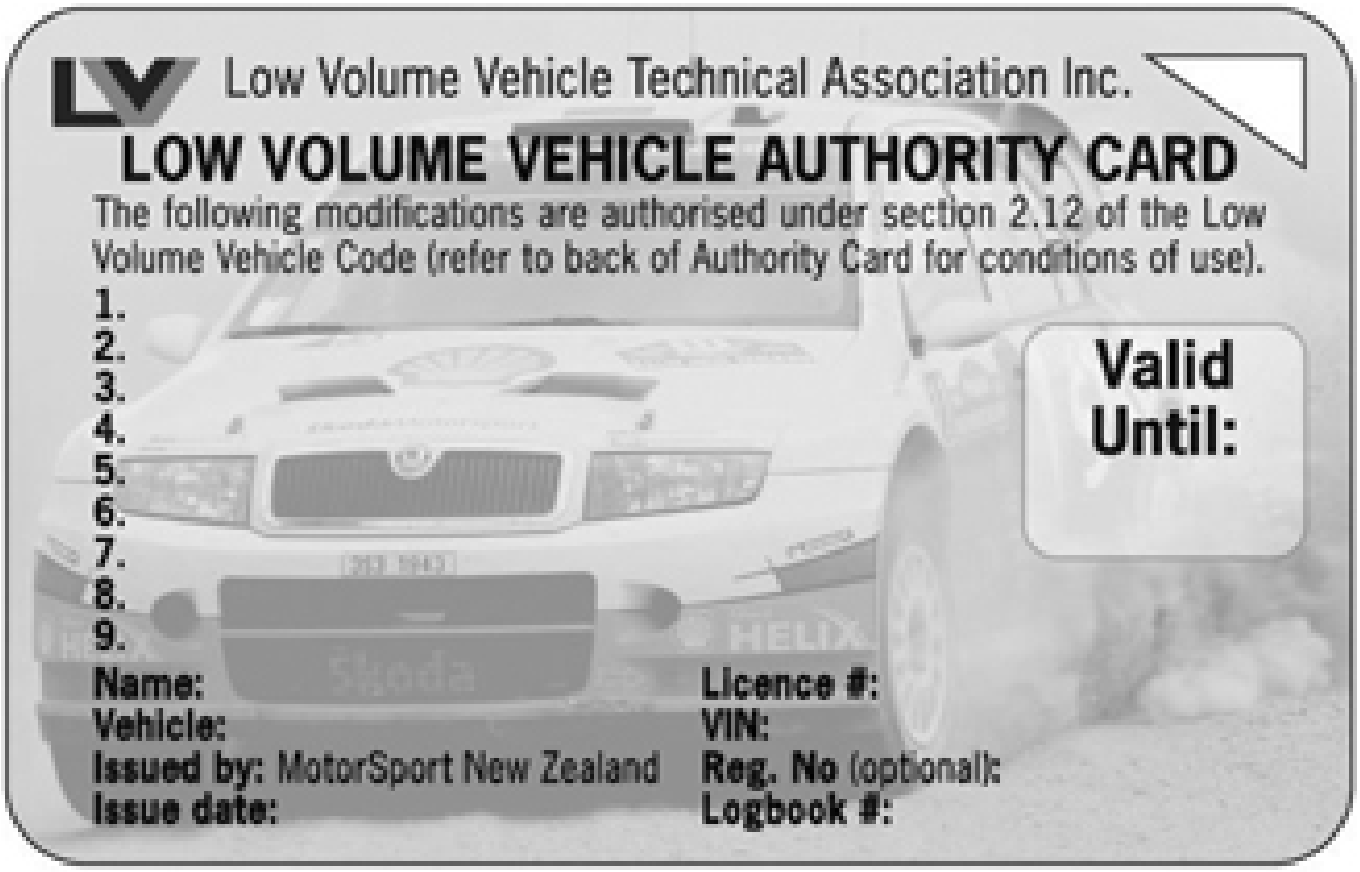


Figure 10-3-4. LVV Authority Card: New Zealand Hot Rod Association



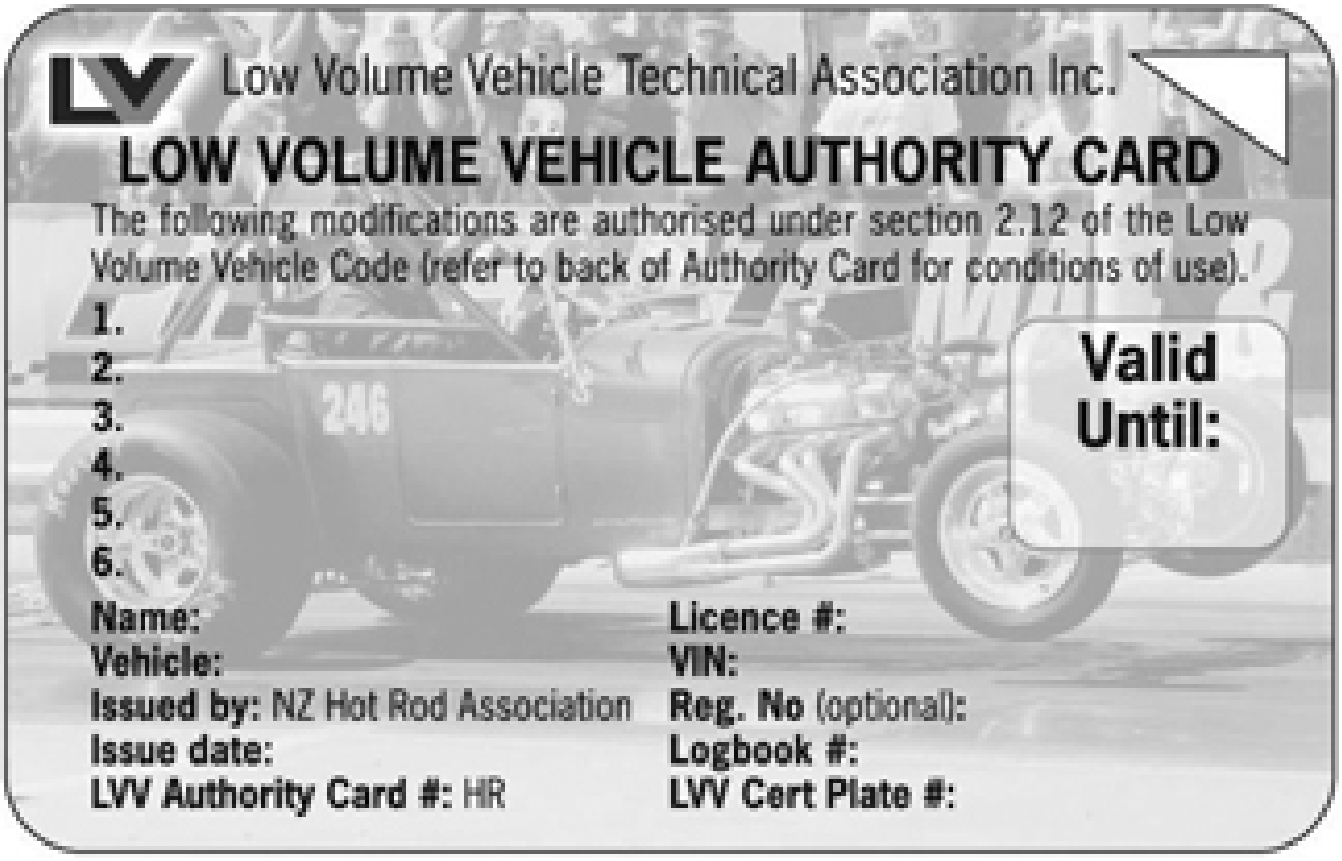


Figure 10-3-5. Permissible damage area on logging truck mudguards (Note 2)

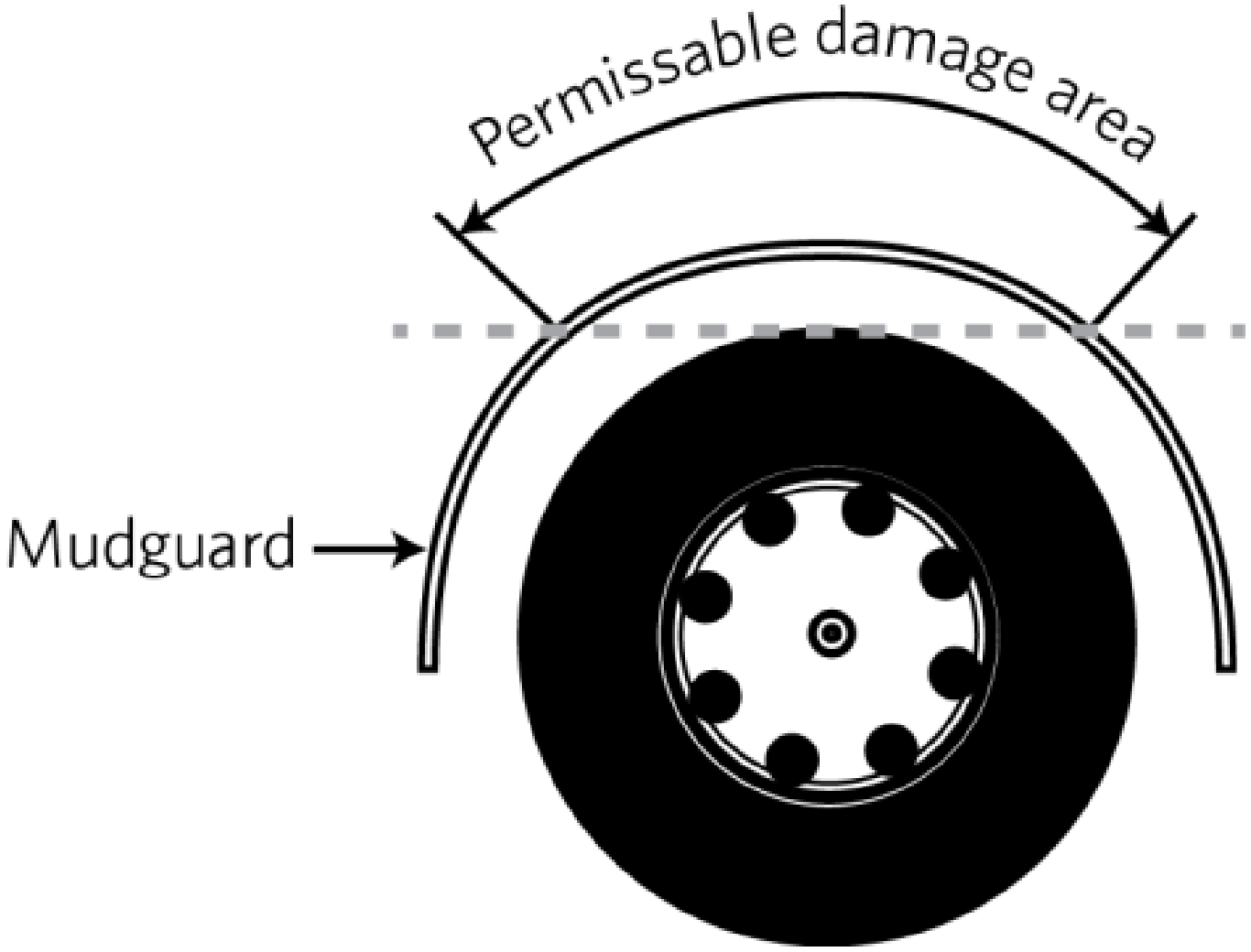
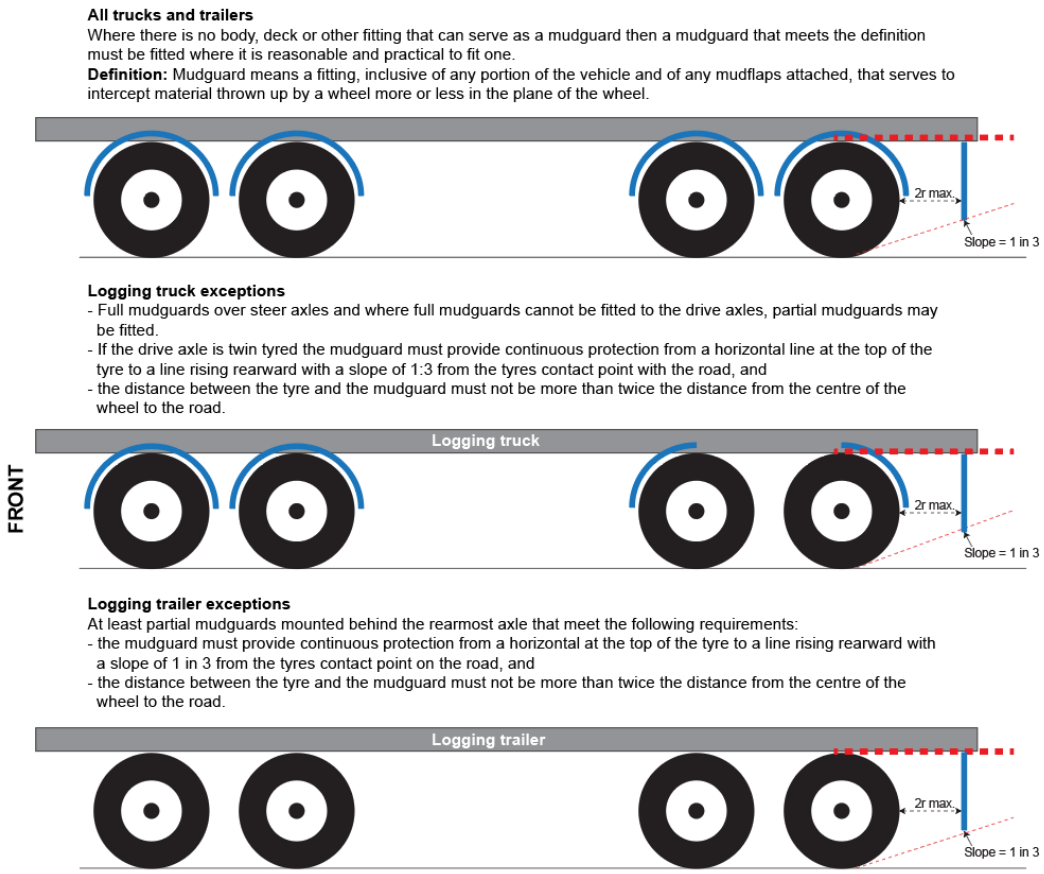


Figure 10-3-6 . Heavy vehicle mudguard requirements



Summary of legislation

Applicable legislation

- Land Transport Rule: Tyres and Wheels 2001
- Land Transport Rule: Vehicle Equipment 2004

Mandatory equipment

1. A vehicle must be fitted with a mudguard over each road wheel if it is reasonable and practicable to do so (Note 1).

2. A mudguard must cover no less than the width of the tyre tread on each road wheel (Figure 10-3-1 and Figure 10-3-2).

3. A vehicle fitted with twin tyres or close-spaced multiple tyres must be fitted with a mudguard over each wheel on the rear axle that provides continuous protection from a horizontal line tangent to the top of the tyre tread (Note 2) to a line with a slope of 1 in 3 rising rearward from the tyre's contact point on the road (Figure 10-3-3).

4. A vehicle designed for industrial purposes may be fitted with partial mudguards if the vehicle's construction makes it impracticable to fit full mudguards.

5. The following vehicles are not required to be fitted with mudguards:

    a) a vehicle in an unfinished condition used under the authority of trade plates and operated in accordance with the Compliance Rule

b) a vehicle not capable of exceeding a speed of 30 km/h

c) a vehicle with a valid LVV authority card (Figure 10-3-4).

Mudguard condition

6. A mudguard must be securely fixed to the vehicle and must be constructed so that it does not present a hazard to road users.

Modification

7. A modification that affects a mudguard must be inspected and certified by a Low Volume Vehicle specialist certifier, unless the vehicle:

a) is excluded from the requirement for LVV certification (Table 10-3-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **29 April 2020** (see **amendment details**).

11 Exhaust

11-1 Exhaust system

Reasons for rejection

Mandatory equipment

1. A vehicle is not fitted with an exhaust system that includes a means of sound reduction (Note 1).

Condition

2. An exhaust system is not securely mounted.

3. The exhaust system is so constructed or modified that its operation or effectiveness can be readily interfered with, eg the driver is able to interfere with the exhaust system by operating a manual switch.

4. The exhaust system is so constructed that emitted heat or fumes:

- are not directed away from, and prevented from entering, the vehicle's passenger compartment (Note 2), or
- are likely to harm vehicle occupants.

Performance

5. There is a leak of exhaust fumes from the exhaust system.

6. The exhaust noise output from a heavy vehicle is noticeably and significantly louder than it would have been when the vehicle was manufactured with its original exhaust system

Note 1

Exhaust system means a pipe assembly through which the engine exhaust gases pass to the atmosphere and includes some means of sound reduction such as a silencer or resonator.

Note 2

Exhaust systems that direct exhaust fumes away from the perimeter of the vehicle's passenger compartment will comply with this requirement, and an OE fitment (or direct OE replacement) where the exhaust system terminates directly below the vehicle's floorpan is also permissible.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Equipment 2004.

Mandatory equipment

1. A motor vehicle with an internal combustion engine must be fitted with an exhaust system.

Condition

2. An exhaust system must not be constructed or modified in a way that allows a person to interfere readily with its operation or reduce its effectiveness.

3. An exhaust system must be designed, constructed, positioned and maintained in a way that minimises the risk of heat or fumes emitted from the system harming the vehicle's occupants.

Performance

4. An exhaust system must be effective and in good working order.

5. The noise output from the exhaust system of a heavy vehicle must not be noticeably and significantly louder than the noise output from the vehicle's original exhaust system at the time of the vehicle's manufacture.

Modification

6. An exhaust system that is affected by a modification must meet the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 October 2020** (see amendment details).

11-2 Exhaust emissions

Reasons for rejection

Performance

1. A vehicle with the engine at normal operating temperature (Note 1) emits clearly visible smoke (Technical bulletin 8) from the exhaust tailpipe (Note 2):

a) for a continuous period of five seconds when the engine is idling and does not meet the additional requirements in Table 11-2-1, or

b) as the engine is being rapidly accelerated to approximately 2500rpm or approximately half the maximum engine speed (whichever is lower) and does not meet the additional requirements in Table 11-2-1.

2. A vehicle (other than group L vehicle or a class MA or MC motorsport vehicle with a valid motorsport authority card) that was first registered in New Zealand on or after 1 May 2010 and manufactured from 1 January 1990 has a catalytic converter (or diesel particulate filter (DPF) in the case of diesel powered vehicles) removed where there is evidence that one was originally fitted, and there is no written evidence issued by an entry certifier that the vehicle passed a prescribed metered emissions test in this condition (Note 5) (Note 6) (Figure 11-2-1).

Note 1 Test procedure:

a) Carry out the idling and acceleration tests in Reason for rejection 1. A vehicle that passes both tests with the engine below normal operating temperature is deemed to have passed with the engine at normal operating temperature.

b) If the vehicle has failed either test, ensure the engine is at normal operating temperature. Then purge the system by increasing the engine speed to 2500 rpm (or half the maximum engine speed if this is lower) and holding it there for about 5 seconds. Repeat the idling and acceleration tests in Reasons for rejection 1.

Note 2

Visible emissions caused by the condensation of water vapour do not count as smoke.

Note 3

Acceptable evidence is:

a) a letter on the letterhead of the manufacturer or manufacturer's representative, or

b) a letter on the letterhead of an appropriate automobile club, or

c) evidence of equal authority to (a) or (b) above, eg from an appropriate expert.

Note 4

The vehicle inspector may need to take into account further information about unusual or older vehicles, eg from an appropriate expert such as an office holder in a vintage car club.

Note 5

This reason for rejection does not apply if the vehicle operator can provide evidence that the vehicle was first certified for entry before 1 May 2008.

Note 6

The metered emissions test can only be carried out at entry certifier sites (**VTNZ**, **VINZ**, **NZAA**) where entry inspections are carried out. The entry certifiers will issue a document (Figure 11-2-1) that identifies the vehicle, whether or not the vehicle has passed the test, and whether or not the vehicle was tested with any OE catalytic converters removed. A metered emissions test is not required if a catalytic converter is refitted, or if there is evidence that the vehicle was not originally fitted with a catalytic converter.

Table 11-2-1. Additional requirements

Type of vehicle	Additional requirements
First registered on or after 1 January 1960 with four-stroke engine, or First registered before 1 January 1960with four-stroke engine manufactured on or after 1 January 1960.	1. Document produced by the vehicle operator that proves that (Note 3): a) the engine is original equipment for the vehicle, and b) its design means that the vehicle cannot reasonably comply with the visible smoke emission requirements. **Note** No evidence is required if, during the acceleration test, a diesel-powered vehicle emits moderate smoke caused by turbo lag. 2. The smoke produced is not noticeably and significantly more visible than it would have been when the vehicle was manufactured and supplied with the fuel recommended by the manufacturer.
First registered before 1 January 1960 with four-stroke engine manufactured before 1 January 1960, or Vehicle with two-stroke engine or rotary engine.	The smoke produced is not noticeably and significantly more visible than it would have been when the vehicle was manufactured and supplied with the fuel recommended by the manufacturer (Note 4).

Figure 11-2-1. Exhaust emissions test certificate

NZ TRANSPORT AGENCY
WAKA KOTAHI

Metered exhaust emissions test

Vehicle details

Make/model	
VIN/chassis number	
Registration plate number	

Metered emissions test results

Engine/fuel type	Permitted maximum	Test result	
Petrol 4-stroke or rotary	1% CO 300ppm HC	% CO	ppm HC
Petrol 2-stroke	4.5% CO 7800ppm HC	% CO	ppm HC
Diesel	0.64 OAC **or** 0.8 OAC average	OAC value	Tick if OAC average value ☐

Test result printout attached: **YES / NO** *(please circle)*

Was the vehicle tested with the catalytic converter(s) fitted? **YES / NO** *(please circle)*

Test result: **PASS / FAIL** *(please circle)*

SAMPLE

I confirm that I have tested the above vehicle in accordance with the NZTA-prescribed metered emissions test.		
Location	Site ID	TSDA stamp
Inspector ID	Date	
Inspector's signature		

Note to the vehicle operator: This document, or a copy of this document, must be kept in the vehicle and produced to a vehicle inspector or enforcement officer on request.

- Download a copy of the **Exhaust emissions test certificate**

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Exhaust Emissions 2007**.

Performance

1. A motor vehicle must not emit clearly visible smoke (Note 2) when the vehicle's engine is running at its normal operating temperature, under either of the following conditions:

    a) for a continuous period of five seconds when the engine is idling

    b) as the engine is being accelerated rapidly to approximately 2500 revolutions per minute or approximately half the maximum engine speed (whichever is lower).

2. Requirement 1 above does not apply if the driver of the vehicle produces documentation that proves that the engine is original equipment for the vehicle and the engine's design means the vehicle cannot reasonably comply (Note 3).

3. The exhaust emissions system or exhaust control equipment of a vehicle (other than a group L vehicle or a class MA or MC motorsport vehicle) first certified for entry into service on or after 1 May 2008 and manufactured on or after 1 January 1990 must not be modified so as to prevent the vehicle from being able to pass a prescribed metered emissions test.

Technical Information

- **www.nzta.govt.nz/resources/vehicle-failed-smoky-exhaust/smoky-exhaust-test.html**
- Download a copy of the **Exhaust emissions test certificate**

Page amended **2 December 2019** (see **amendment details**).

12 Towing connections

12-2 Towbar

Reasons for rejection

Mandatory requirement

1. A towbar fitted to a heavy vehicle does not have evidence of certification, ie:

    a) the towbar was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,

    Note Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

    or

    b) the towbar was fitted after the last CoF inspection and

        i. a valid LT400 form has not been presented, or

ii. the HVS certifier was not of category HVET or HMTD or

c) there is no valid certification plate/label attached to the vehicle as required in Table 12-2-1.

2. A towbar fitted to a heavy vehicle before 1 April 2006 for towing a light trailer has not been certified as complying with at least one of the following:

- NZS 5467: 1993
- NZS 5446: 1987
- NZS 5446: 1987, amended by Appendix A to Policy Statement 5 for towbars rated for a maximum towed mass of 2000 kg or less.

3. A towbar fitted to a heavy vehicle on or after 1 April 2006 for towing a light trailer has not been certified as complying with NZS 5467: 1993.

4. The certification label or plate:

a) is not indelible, or

b) is illegible, or

c) is not complete, or

d) has expired (where expiry date is required under Table 12-2-1), or

e) is not attached to the towbar in an easily visible position, or

f) does not match the vehicle, or

g) has obvious signs of tampering.

5. A 50mm or 1 7/8-inch-diameter tow ball for towing a light trailer is not marked with:

a) the ball size, that is 50mm or 1 7/8 inch, or

b) the ball rating in kilograms.

6. A high rise towball is fitted to a heavy vehicle (see Figure 12-1-1).

Mandatory equipment

7. A towbar does not have provision for securely fitting the safety chain from a trailer coupling, except for:

a) New Zealand Armed Forces vehicles

b) fire fighting vehicles.

Condition

8. The towbar or towbar mounting:

a) is not securely attached, or

b) has a bolt or nut that is missing or significantly corroded, or

c) has corrosion damage within 150mm of the mounting points, or

d) is cracked or distorted.

9. The towbar coupling (towball):

a) is not securely attached, or

b) is worn beyond manufacturer's specifications, or

c) is significantly corroded, distorted or cracked, or

d) has a nut that is missing or significantly corroded.

Revoked certifications

10. A towbar fitted to a heavy vehicle was last certified by Peter Wastney (PW) of Peter Wastney Engineering Ltd (for sample plates see Figure 12-1-2).

11. A towbar fitted to a heavy vehicle was last certified by Patrick Chu (ZC) of Transport and Structure Ltd (for sample plates see Figure 12-1-2).

Modification and repair

12. A modification or repair affects the towbar and:

a) is not excluded from the requirements for HVS certification (Table 12-2-2), or

b) is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii.no valid LT400 form from an HVS certifier of category HVET or HMTD has been presented.

Note 1 Definitions

Coupling means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; does not include a structural member of the towing or towed vehicle (for example fifth wheel, hook, pin, ball or socket type).

Light trailer means a trailer that has a gross vehicle mass of 3500kg or less.

Towbar means that part of the towing vehicle to which a coupling for a light trailer is connected.

Table 12-2-1. Minimum information on towbar certification label/plate

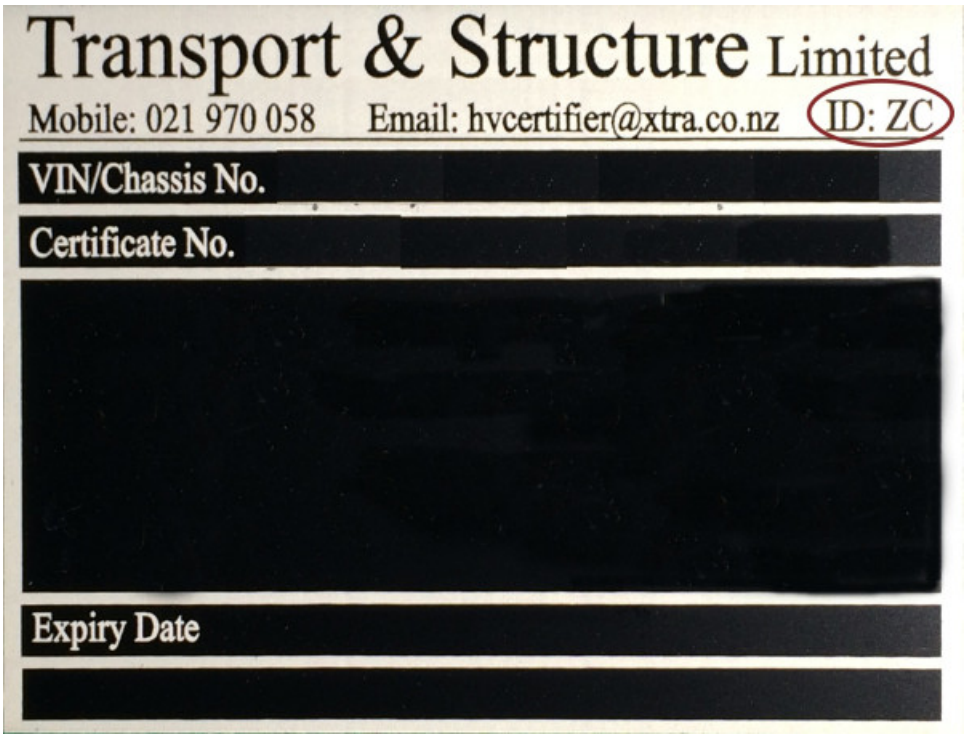
NZS 5467	NZS 5446	NZS 5446 as amended by Appendix A to Policy Statement 5
Manufacturer's name or trademark Maximum towed mass (braked and unbraked) Model (vehicle make, model or part number) Maximum vertical load Certifier or agency approval number	Company or agency name Certifying engineer Vehicle VIN or chassis number Maximum towed mass (kg) Expiry date (if certified after August 1991)	Manufacturer's name Towbar model number or part number Rating – maximum towed mass (MTM) in kg (maximum of 2000kg)

Table 12-2-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Fitting of a towbar	1. A replacement bolt-on 50mm or 1 7/8-inch-diameter tow ball 2. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes the LANDATA record need not be checked). 3. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Figure 12-1-1. High rise towball

Figure 12-1-2. Sample certification plates (Peter Wastney Ltd and Patrick Chu (ZC) of Transport and Structure Ltd)

Peter Wastney Ltd
Patrick Chu (ZC) of Transport and Structure Ltd


Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- Land Transport Rule: Passenger Service Vehicles 1999
- New Zealand Standard 5467: 1993, Code of Practice for Light Trailers
- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Vehicle Towing Connections: Drawbar Trailers

- Policy Statement 5, Appendix A
- New Zealand Standard 5232: 1993, Specification for Ball-and-Socket Type Trailer Couplings.

Mandatory requirement

1. A towbar fitted to a heavy vehicle before 1 April 2006 must comply with and be certified to:

a) NZS 5467: 1993, or

b) NZS 5446: 1987, or

c) NZS 5446: 1987, amended by Appendix A to Policy Statement 5 for towbars rated for a maximum towed mass of 2000kg or less.

2. A towbar fitted to a vehicle on or after 1 April 2006 for towing a light trailer must comply with and be certified to NZS 5467: 1993. 3. The towball on a towbar fitted to a heavy vehicle must comply with NZS 5232.

Mandatory equipment

4. A towbar, if fitted to a vehicle, must have provision for securing the safety chain or cable from a trailer coupling, except if the vehicle is likely to tow any of the following trailers:

a) a trailer designed for armament purposes by the New Zealand Defence Force

b) a trailer pump for fire fighting purposes.

Condition

5. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

6. A modification or repair that affects the towbar must be inspected and certified by an HVS certifier of category HVET or HMTD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 12-2-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**)

12-3 Drawbeam

Reasons for rejection

Mandatory requirement

1. A drawbeam fitted to a heavy vehicle, other than a tractor to which section 12-4 applies or a recovery service vehicle, does not have evidence of certification to NZS 5446, ie

a) the drawbeam was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,

Note Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or

b) the drawbeam was fitted after the last CoF inspection and

i. a valid LT400 form has not been presented, or

ii. the HVS certifier was not of category HVET or HMTD, or

c) there is no valid certification label or plate attached to the vehicle as required in Table 12-3-1.

2. The certification label or plate:

a) is not indelible, or

b) is illegible, or

c) is not complete, or

d) is not attached to the drawbeam in an easily visible position, or

e) does not match the vehicle, or

f) has obvious signs of tampering, or

g) has expired.

3. An air assisted automatic coupling device fitted to a towing connection is not fitted with a failsafe system that prevents unintentional release.

- See also **Safety alert: Risk of vehicle separation – air operated auto coupling devices**

Mandatory equipment

4. A hook- or pin-type coupling does not have a locking device or a separate means of retaining this device in the locked position.

Condition and performance

5. A towing connection component is:

a) damaged, deformed, cracked or has significantly deteriorated, or

b) worn beyond manufacturer's specifications, or

c) not securely attached, or

d) missing, or

e) not mounted in accordance with manufacturer's specifications.

6. The towing pin diameter is worn to less than (Note 1):

a) 36.4mm for a 40mm pin, or

b) 46.4mm for a 50mm pin.

7. A towing hook, pin or ball has been repaired or welded.

8. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operation for which the vehicle was constructed.

9. A drawbeam is sliding or adjustable.

10. Locking of the coupling is not readily verifiable by visual inspection.

11. A coupling locking device is in such condition that it is not effective.

Revoked certifications

12. A drawbeam fitted to a heavy vehicle was last certified by Peter Wastney (PW) of Peter Wastney Engineering Ltd (for sample plates see Figure 12-3-2).

13. A drawbeam fitted to a heavy vehicle was last certified by Patrick Chu (ZC) of Transport and Structure Ltd (for sample plates see Figure 12-3-2).

Modification and repair

(see Note 4)

14. A modification or repair affects the drawbeam and:

a) the modification is not for the purpose of law enforcement or the provision of emergency services, or

b) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i.no LANDATA record has been entered, or

ii. no valid LT400 form from a HVS Certifier of category HVET or HMTD has been presented.

Note 1

Manufacturer's wear limits may be used instead of those stated.

Note 2 Definitions

Coupling means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; it does not include a structural member of the towing or towed vehicle (eg fifth wheel, hook, pin, ball or socket type).

Drawbeam means that part of the towing vehicle to which a coupling is fitted to enable a heavy trailer to be connected; it includes the attached coupling.

Full trailer means a trailer with two axle sets, the foremost of which is steered by a drawbar; includes a semi-trailer with non-steering axles coupled to a converter dolly.

Note 3

Some special-use vehicles, such as fertiliser trucks and trailers, are fitted with towing connections where the towing eye is fitted to the towing vehicle and the pin- or hook-type coupling to the trailer. This is permitted. In these cases, please refer to heavy trailer pages of section 8-3 for wear limits and other relevant requirements.

Note 4

A towing connection that was certified to New Zealand standard 5446: 1987 (superseded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

Table 12-3-1. Minimum information on drawbeam certification label/plate

NZS 5446: 1987	NZS 5446: 2007 / NZS5446:2024
Company or agency name	Person, company or agency name
Certifying engineer	Certifier ID
VIN/Chassis number	LT400 number*
Maximum towed mass (kg)	VIN/Chassis number
Expiry date (if certified on or after 1 August 1991)	Maximum towed mass
	Permitted static vertical load (where applicable)**
	Coupling D value (minimum) (where applicable)**
	Expiry date
	NZS 5446

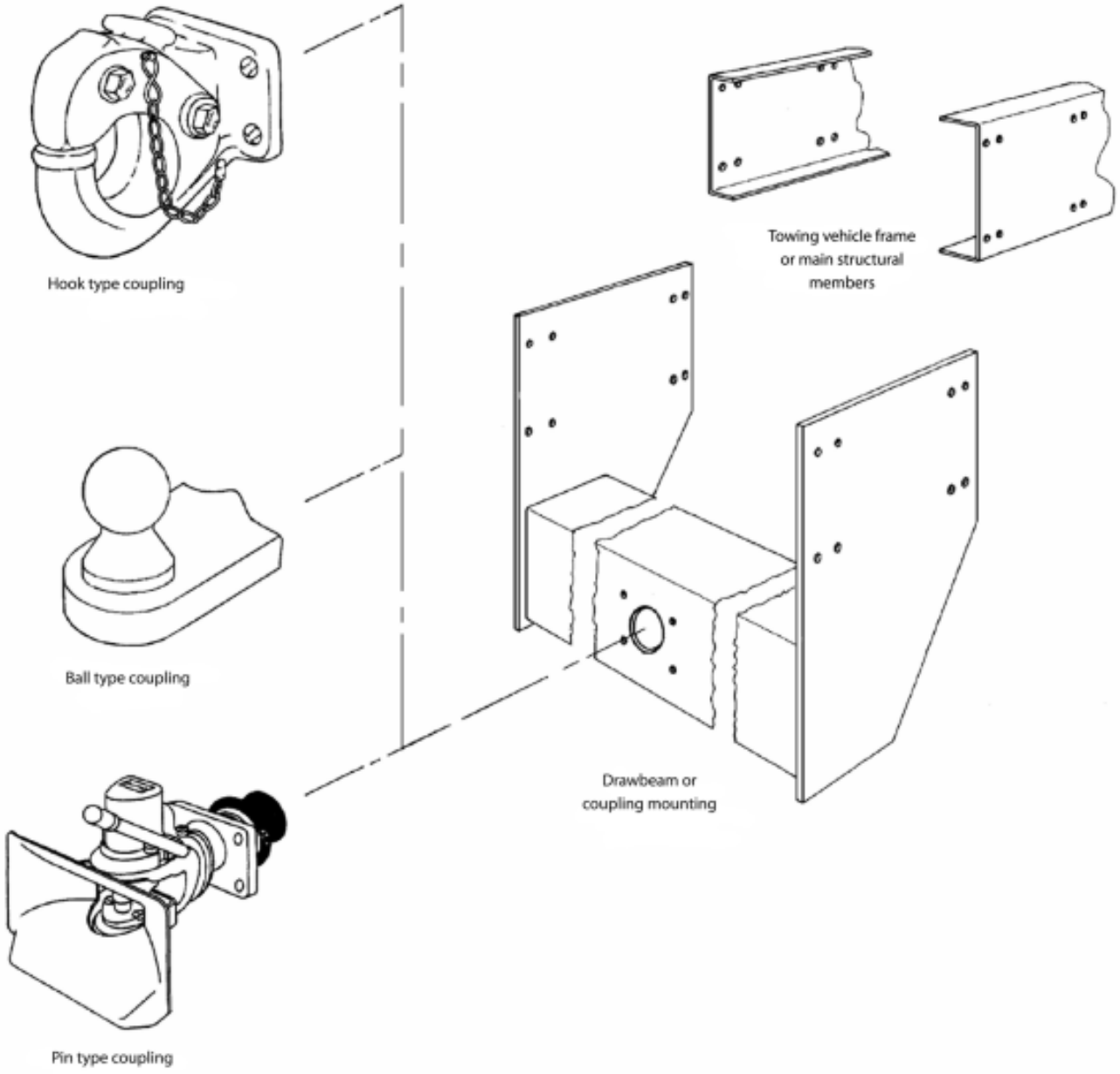
*Prior to 1 December 2016 the engineer's job file number could have been used instead of the LT400 number.

**If these values are not applicable, ‘N/A’ must be used (from 1 October 2020). Prior to 1 October 2020 the plate may have a blank space or a zero, nil or N/A value.

For example:

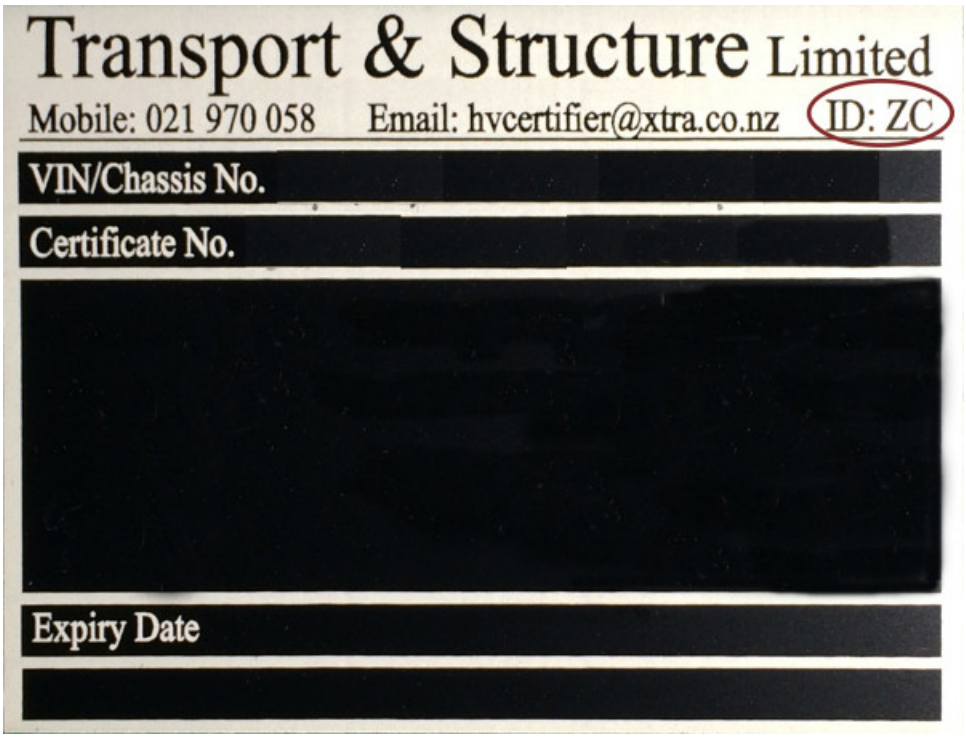
- hinged drawbars do not have a vertical load rating
- most pintle hooks/eyes do not have a D value.

Figure 12-3-1. Drawbeam components



Reproduced from Figure 3 of NZS 5446: 2007 with the permission of Standards New Zealand under Licence 000711

Figure 12-3-2. Sample certification plates (Peter Wastney Ltd and Patrick Chu (ZC) of Transport and Structure Ltd)

Peter Wastney Ltd
Patrick Chu (ZC) of Transport and Structure Ltd


Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Dimensions and Mass 2002
- Land Transport Rule: Heavy Vehicles 2004

- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Vehicle Towing Connections: Drawbar Trailers
- New Zealand Standard 5446: 2007, Heavy Vehicle Towing Connections – Drawbeams and Drawbars
- New Zealand Standard 5446:2024, On-road heavy vehicle towing connections – Drawbeams and drawbars.

Mandatory requirement

1. A drawbeam fitted to a vehicle used in a combination, (other than a tractor to which section 12-4 applies or a recovery service vehicle) must comply and be certified to NZS 5446.

Mandatory equipment

2. A hook- or pin-type coupling must have an effective locking device and a separate means of retaining this device in the locked position.

Condition and performance

3. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operation for which the vehicle was constructed.

4. A drawbeam used for towing a full trailer must not be sliding or adjustable.

5. Locking of the coupling must be readily verifiable by visual inspection.

Modification and repair

6. A modification or repair that affects the drawbeam must be inspected and certified by an HVS certifier of category HVET or HMTD.

Page amended **4 November 2025** (see **amendment details**)

12-4 Heavy tractor towing connection

Reasons for rejection

Mandatory and permitted equipment

1. A tractor with a towing connection other than a three-point linkage does not have one or two attachment points to which safety chains from a trailer coupling can be securely attached.

Condition

2. A towing connection component including a safety chain attachment point is:

a) damaged, deformed, cracked or has significantly deteriorated, or

b) worn beyond manufacturer's specifications, or

c) not securely attached, or

d) missing, or

e) not mounted in accordance with manufacturer's specifications.

3. A coupling mechanism or safety locking device does not:

a) operate smoothly or effectively, or

b) fasten securely.

Note 1 Definitions

Heavy tractor means a motor vehicle (other than a traction engine) with a gross vehicle mass exceeding 3500 kg constructed principally for towing an agricultural trailer or powering agricultural implements. This definition applies to towing connections only.

Towing connection means the combination of components that enables one vehicle to tow or be towed by another vehicle; it includes a towbar, drawbar, drawbeam and coupling.

Three-point linkage means, for a tractor or agricultural trailer, a towing connection that has three points of attachment.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Mandatory and permitted equipment

1. A tractor may be fitted with towing connections, including three-point agricultural linkages.

2. A tractor with a towing connection other than a three-point linkage must have one or two points for attaching trailer safety chains that each has a strength of at least twice the maximum mass of any vehicles that may be towed by the tractor by means of that towing connection.

Condition

3. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operations for which the vehicle was constructed.

Page amended **1 October 2020** (see amendment details)

12-5 Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer)

Reasons for rejection

Mandatory equipment

1. A fifth wheel is not designed to fit a 50mm or 90mm kingpin.

2. A fifth wheel or ball-type coupling fitted to a heavy vehicle does not have evidence of certification (unless excepted in Table 12-5-1), ie:

a) the coupling was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,

Note Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or

b) the coupling was fitted after the last CoF inspection and

i. a valid LT400 form has not been presented, or

ii. the HVS certifier was not of category HVET or HMTD.

3. A 50mm-diameter fifth wheel, other than a rigid fifth wheel, has not been:

a) certified to NZS 5450: 1989, or

b) certified to all of the following:

i. Australian/New Zealand Standard 4968.1-2003, and

ii. Australian/New Zealand Standard 4968.2-2003, and

iii. Australian Standard 2174-2006, or

c) fitted by the vehicle manufacturer in compliance with UN/ECE Regulation 55 (if fitted to an **imported** vehicle).

4. A 90mm-diameter fifth wheel, other than a rigid fifth wheel, has not been certified to one of the following:

a) if fitted before 1 April 2005, NZS 5450

b) if fitted on or after 1 April 2005, both AS 2174 and AS/NZS 4968 (Note 1).

5. A rigid fifth wheel has not been certified to manufacturer's specifications.

6. A vehicle that is fitted with a 90mm-diameter fifth wheel does not have '90mm fifth wheel', where '90' is at least 60mm high, clearly displayed in a position readily visible from the position from which the release handle of the fifth wheel is operated.

7. An 'Operator Statement of Compliance with the Maintenance Requirements of NZS 5450: 1989' (NZTA 4085A form) is:

a) not presented, or

b) incomplete (Note 2), or

c) not current, ie more than:

i. the time or distance specified by the fifth wheel manufacturer has elapsed or been travelled since the most recent inspection recorded on the form, or

ii. 30 days have lapsed or 15,000km has been travelled, whichever occurred sooner, since the most recent inspection recorded on the form, where manufacturer's specifications are unavailable.

8. A vehicle is fitted with a ball-type coupling to tow a semi-trailer and:

a) is not certified to NZS 5446, or

b) does not have a valid certification label or plate attached to the vehicle as required in Table 12-5-2, or

c) is not part of a dedicated combination.

9. A required certification label or plate (ball-type couplings only):

a) is not indelible, or

b) is illegible, or

c) is not complete, or

d) is not attached to the vehicle in an easily visible position, or

e) does not match the vehicle, or

f) has obvious signs of tampering, or

g) has expired.

Condition and performance (Note 3)

10. A coupling or its mounting:

    a) is not securely attached, or

    b) bolt or nut is missing, significantly corroded or not suitable, or

    c) is cracked, distorted or significantly corroded or has deteriorated, or

    d) has corrosion damage within 150mm of the mounting points, or

    e) pivot is seized, worn beyond manufacturer's specifications, or not securely attached, or

    f) is worn beyong manufacturer's specifications.

11. The fifth wheel release mechanism:

    a) is not in good condition, eg the handle is bent or damaged, or

    b) does not operate freely (check only if presented without trailer attached).

12. The fifth wheel locking mechanism:

    a) is not in good condition, eg jaws are worn beyond manufacturer's specifications or out of adjustment, or

    b) does not operate freely (check only if presented without trailer attached).

Modification and repair (Note 4)

13. A modification or repair affects the coupling and:

    a) is not excepted from the requirements for HVS certification (Table 12-5-1), or

    b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

    c) is missing proof of HVS certification, ie vehicle has been modified or repaired, and:

        i. no LANDATA record has been entered, or

        ii. no valid LT400 form from an HVS certifier of category HVET or HMTD has been presented.

Note 1

AS/NZS 4968 supersedes AS 1773 and AS 1771.

Note 2

Where the service history is incomplete, the CoF inspector must note this on the CoF checksheet, but the vehicle is not required to be failed for this reason alone.

Note 3

Where a vehicle is presented in combination, the vehicles do not have to be separated, but a thorough visual inspection as far as practicable must be carried out.

Note 4

A towing connection that was certified to New Zealand standard 5446: 1987 (superseded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

Note 5

While not included as an inspection item, a vehicle may not be towed using a fifth wheel coupled to another fifth wheel.

Note 6 Definitions

Fifth wheel means a device fitted to a vehicle to enable a semi-trailer to be connected to it by means of a kingpin so that the semi-trailer may be towed.

Coupling means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; it does not include a structural member of the towing or towed vehicle (eg fifth wheel, hook, pin, ball or socket type).

Dedicated combination means a combination of vehicles certified for use in combination where both vehicles are affixed with a plate clearly and indelibly marked with the VIN or chassis number of the other vehicle (the plate is fitted by the HVS certifying Eengineer).

Semi-trailer means a trailer with only one axle set that is partially superimposed on the towing vehicle so that a substantial part of the trailer and its load is borne by the towing vehicle.

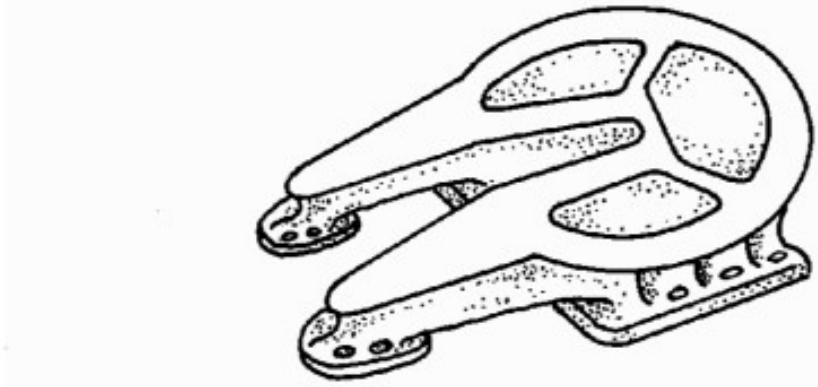
Table 12-5-1. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Fitting of a coupling, other than a direct bolt-on replacement. 2. Modification or repair of a coupling, except when this is not required in the right-hand column.	1. Fifth wheel or ball-type coupling that is a direct bolt-on replacement. 2. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date required certification but for inspection purposes the LANDATA record need not be checked). 3. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop). 4. A 50mm fifth wheel that complies with UN/ECE Regulation 55 fitted to an imported vehicle.

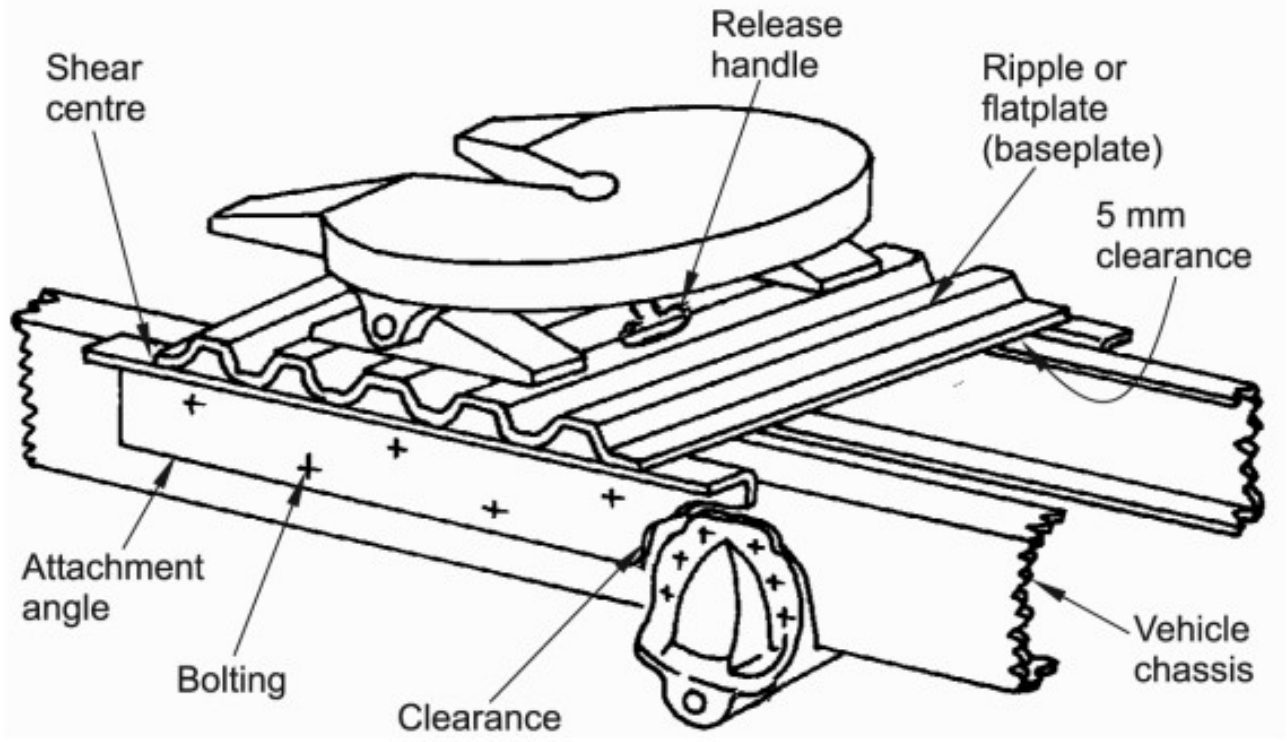
Table 12-5-2. Minimum information on certification label/plate

NZS 5446: 1987	NZS 5446: 2007 / NZS 5446: 2024
Company or agency name Certifying engineer VIN/Chassis number Maximum towed mass (kg) Expiry date (if certified on or after 1 August 1991)	Person, company or agency name Certifier ID Compliance certificate number (LT400) VIN/Chassis number Maximum towed mass Permitted static vertical load Coupling D value (minimum) Expiry date NZS 5446

Figure 12-5-1. Fifth wheels

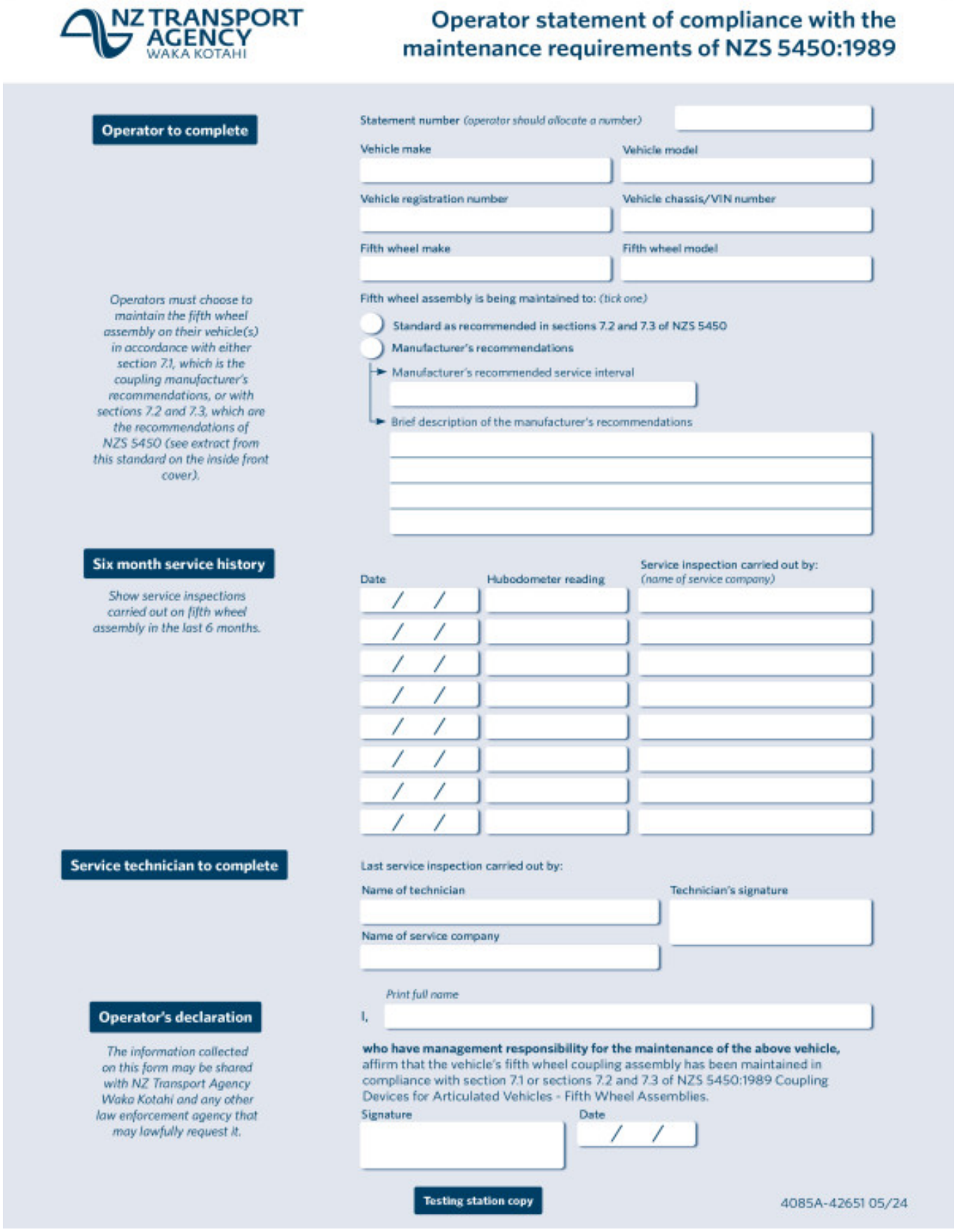


Typical rigid fifth wheel assembly



Typical fifth wheel assembly mounting

Figure 12-5-4. NZTA 4085A form (blank forms available from CoF inspecting organisations)



NZ TRANSPORT AGENCY
WAKA KOTAHI

Operator statement of compliance with the maintenance requirements of NZS 5450:1989

Operator to complete

Statement number *(operator should allocate a number)*

Vehicle make

Vehicle model

Vehicle registration number

Vehicle chassis/VIN number

Fifth wheel make

Fifth wheel model

Operators must choose to maintain the fifth wheel assembly on their vehicle(s) in accordance with either section 7.1, which is the coupling manufacturer's recommendations, or with sections 7.2 and 7.3, which are the recommendations of NZS 5450 (see extract from this standard on the inside front cover).

Fifth wheel assembly is being maintained to: *(tick one)*

- ○ Standard as recommended in sections 7.2 and 7.3 of NZS 5450
- ○ Manufacturer's recommendations
  - → Manufacturer's recommended service interval
  - → Brief description of the manufacturer's recommendations

Six month service history

Show service inspections carried out on fifth wheel assembly in the last 6 months.

Date	Hubodometer reading	Service inspection carried out by: *(name of service company)*
/ /		
/ /		
/ /		
/ /		
/ /		
/ /		
/ /		
/ /		

Service technician to complete

Last service inspection carried out by:

Name of technician

Technician's signature

Name of service company

Operator's declaration

The information collected on this form may be shared with NZ Transport Agency Waka Kotahi and any other law enforcement agency that may lawfully request it.

Print full name

I,

who have management responsibility for the maintenance of the above vehicle, affirm that the vehicle's fifth wheel coupling assembly has been maintained in compliance with section 7.1 or sections 7.2 and 7.3 of NZS 5450:1989 Coupling Devices for Articulated Vehicles - Fifth Wheel Assemblies.

Signature

Date / /

Testing station copy

4085A-42651 05/24

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- New Zealand Standard 5450: 1989, Coupling Devices for Articulated Vehicles – Fifth Wheel Assemblies
- Australian Standard 1773-1996: Articulated Vehicles – Fifth Wheel Assemblies
- Australian Standard 1771-1996: Installation of Fifth Wheel and Turntable Assemblies
- Australian Standard 2174-1994: Articulated Vehicles – Mechanical Coupling between Prime Movers and Semi-Trailers – Interchangeability Requirements
- Australian Standard 2174-2006:Articulated Vehicles – Mechanical coupling between prime movers and semitrailers – Interchangeability requirements
- Australian/New Zealand Standard 4968.1-2003: Heavy-road vehicles – Mechanical coupling between articulated vehicle combinations – Design criteria and selection requirements for fifth wheel, kingpin and associated equipment
- Australian/New Zealand Standard 4968.2-2003: Heavy-road vehicles – Mechanical coupling between articulated vehicle combinations – Testing and installation of fifth wheel and associated equipment
- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Towing Connections – Drawbar Trailers
- New Zealand Standard 5446: 2007, Code of Practice for Heavy Motor Towing Connections – Drawbeams and Drawbars
- New Zealand Standard 5446:2024, On-road heavy vehicle towing connections – Drawbeams and drawbars
- UN/ECE Regulation 55:Uniform Provisions Concerning the Approval of Mechanical Coupling Components of Combinations of Vehicles E/ECE/32 4 Rev.1/Add.54/Rev.1 E/ECE/TRANS/505A.

Mandatory equipment

1. A vehicle that is constructed to tow a semi-trailer must be fitted with either:

    a) a 50mm-diameter fifth wheel, or

    b) a 90mm-diameter fifth wheel, or

    c) a ball-type coupling certified to NSZ 5446 and be operated as part of a dedicated combination.

2. A 50mm-diameter fifth wheel must comply with:

    a) New Zealand Standard 5450: 1989, or

    b) all of the following:

        i. Australian/New Zealand Standard 4968.1-2003: Heavy-road vehicles – Mechanical coupling between articulated vehicle combinations – Design criteria and selection requirements for fifth wheel, kingpin and associated equipment, and

        ii. Australian/New Zealand Standard 4968.2-2003: Heavy-road vehicles – Mechanical coupling between articulated vehicle combinations – Testing and installation of fifth wheel and associated equipment, and

        iii. Australian Standard 2174-2006: Articulated Vehicles – Mechanical coupling between prime movers and semitrailers – Interchangeability requirements, or

    c) Despite the requirements in 2b) above, an imported vehicle that is constructed to tow a semi-trailer may be fitted with a 50mm diameter fifth wheel that complies with UN/ECE Regulation 55: Uniform Provisions Concerning the Approval of Mechanical Coupling Components of Combinations of Vehicles E/ECE/32 4 Rev.1/Add.54/Rev.1 E/ECE/TRANS/505A.3. A 90mm-diameter fifth wheel installed before 1 April 2005 must comply with NZS 5450:

1989.

4. A 90mm-diameter fifth wheel installed on or after 1 April 2005 and before 29 December 2007 must comply with:

a) Australian Standard 1773-1996, and

b) Australian Standard 1771-1996, and

c) Australian Standard 2174-1994.

5. A 90mm-diameter fifth wheel installed on or after 29 December 2007 must comply with:

a) AS/NZS 4968, and

b) AS 2174.

6. A vehicle that is fitted with a 90mm-diameter fifth wheel must have, clearly displayed in a position readily visible from the position from which the release handle of the fifth wheel is operated, '90mm fifth wheel' where '90' must not be less than 60mm high.

7. A rigid fifth wheel fitted to a vehicle must be installed and maintained in accordance with the fifth-wheel manufacturer's instructions.

Condition and performance

8. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operations for which the vehicle was constructed.

Modification and repair

9. A modification or repair that affects a coupling must be inspected and certified by a HVS Certifier of category HVET or HMTD unless the vehicle:

a) excepted from the requirement for HVS certification (Table 12-5-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **10 March 2025** (see **amendment details**)

13 Miscellaneous items

13-1 Engine and transmission

Reasons for rejection

Condition

1. Refer to **general vehicle pages**.

2. A device fitted to a vehicle to restrict the field of swing of a driveshaft in the event of driveshaft failure is:

a) missing, where there is evidence that one was originally fitted, or

b) not securely attached, or

c) cracked, or

d) significantly deteriorated or damaged so that it is unlikely to prevent the driveshaft from striking the ground, chassis or floor in the event of driveshaft failure, or

e) showing evidence of contact with the driveshaft.

Modification

3. A modification or repair affects the engine or transmission and:

a) is not excluded from the requirements for HVS certification (Table 13-1-2), or

b) the modification is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

Table 13-1-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Significant work involving: a) relocation of components b) fitting of components that are not identical to OE components c) modification of components.	1. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required). 2. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Permitted equipment

1. The vehicle may be fitted with a device to restrict the field of swing of a driveshaft in the event of driveshaft failure.

Condition

2. The transmission must:

a) be within safe tolerance of its original condition, and

b) have adequate strength and performance characteristics for the conditions and loading for which the vehicle was constructed.

3. A device fitted to a vehicle to restrict the field of swing of a driveshaft in the event of driveshaft failure must be within safe tolerance of its original condition.

Modification

4. A modification or repair that affects the engine or transmission must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

a) excluded from the requirement for HVS certification (Table 13-1-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

13-2 Fuel system

Reasons for rejection

Condition

1. There is a noticeable fuel leak from the fuel system.

2. There is corrosion damage (Note 1), cracking or other damage within 150mm of a tank mounting.

3. The security of the fuel tank is affected by:

a) corrosion damage (Note 1) insecure or loose tank mountings.

4. A fuel line is insecure or loose so that it is likely to be damaged during normal use of the vehicle.

5. A fuel pipe is severely damaged or excessively corroded.

6. A fuel hose is damaged or perished.

7. The fuel pump is insecure.

8. The fuel filler cap or capless fuel filler seal is missing, insecure or likely to allow fuel spillage when the vehicle is in normal use.

9. The fuel tank is fitted with a ‘temporary use’ fuel filler cap.

Modification

10. A modification affects the fuel system, and:

a) is not excluded from the requirements for LVV specialist certification (Table 13-2-1), or

b) is missing proof of LVV specialist or accepted overseas certification, ie:

i. the vehicle is not fitted with a valid LVV certification plate, or

ii. the operator is not able to produce a valid modification declaration or authority card, or

iii. the vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13**.

Note 1

Corrosion damage is where the metal has been eaten away, which is evident by pitting. The outward signs of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by corrosion damage will fall out and leave a hole.

Table 13-2-1. Modifications that do not require LVV certification

Fitting of or modification to:	LVV certification is not required provided that:
Electric fuel pump	The electric fuel pump: • is a replacement for a mechanical pump on a carburetor engine, and • is adequately supported, and • does not increase the fuel pressure above OE.
Fuel lines	The fuel lines are: • of similar construction to the OE fuel lines (ie hard lines are not replaced with flexible lines), and • in the OE location and mounted to all the OE fixing clips.
In-line fuel filter	The in-line fuel filter is: • of an appropriate pressure rating, and • adequately supported, and • at least 50mm from the exhaust, and at least 100mm from a catalytic converter.

Note: All other fuel system modifications require certification

Fitting of or modification to:	LVV certification is never required:
Any modification for the purposes of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Equipment 2004.

Condition and performance

1. Fuel tanks, fuel lines and associated components must be:

a) securely mounted, and

b) made of suitable materials, and

c) in good condition, and

d) free from significant leaks, and

e) positioned so that the risk of mechanical damage or heat gain is minimised.

Modification

2. A modification that affects the fuel tank and fuel lines must be inspected and certified by a Low Volume Vehicle Specialist Certifier, unless the vehicle:

a) is excluded from the requirement for LVV certification (Table 13-2-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **29 April 2020** (see **amendment details**).

13-3 LPG/CNG fuel system

Reasons for rejection

Mandatory equipment

1. A vehicle that is equipped with an LPG or CNG fuel system that is in working order does not have a current alternative fuel inspection certificate (Note 1) (Note 2) (Figure 13-3-1).

Condition

2. An LPG or CNG fuel system component is:

a) loose, or

b) significantly corroded, distorted or cracked.

3. A gas line:

a) shows signs of corrosion damage (Note 3), such as pitting, or

b) is bulging, or

c) is insecure, or

d) is damaged, eg cut or crimping.

4. There is a noticeable gas leak.

5. There is corrosion damage, distortion or fracture within 300mm of a tank mounting

Note 1 Definitions

Alternative fuel inspection certificate means evidence of vehicle inspection relating to the periodic in-service inspection and certification of an LPG or CNG fuel system.

Alternative fuel installation certificate means an inspection and certification document relating to the installation of an LPG or CNG fuel system. It is not required for the issue of a WoF or CoF.

LPG/CNG fuel system means a fuel storage and conducting system that is used to provide liquid petroleum gas (LPG) or compressed natural gas (CNG) for the purpose of propulsion of a vehicle.

Note 2

An LPG or CNG fuel system with all the necessary components is deemed to be in working order, whether or not it is charged. A system that has had the filler connection removed is deemed to be not in working order.

Note 3

Corrosion damage is where the metal has been eaten away, which is evident by pitting. The outward signs of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by the corrosion damage will fall out and leave a hole.

Figure 13-3-1. Alternative fuels certificate label

Table 13-3-1. Modifications that do not require LVV certification

Fitting or modification to:	LVV certification is never required
LPG/CNG fuel system	• in-service requirements for performance and condition must be met.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Standards Compliance 2002
- Land Transport Rule: Vehicle Equipment 2004.

Mandatory equipment

1. A motor vehicle equipped with an LPG or CNG fuel system that is in working order must display a current alternative fuel inspection certificate.

Condition

2. An LPG or CNG fuel system must be in safe working condition.

Modification

3. The installation of an LPG or CNG fuel system is not a modification that requires certification by a LVV specialist certifier.

4. A modification to an existing LPG or CNG fuel system must be inspected and certified by an approved LPG or CNG fuel inspector or inspecting organisation.

13-4 Electrical wiring

Reasons for rejection

Condition

1. An electrical wire shows signs of:

a) overheating, or

b) chafing, or

c) other damage.

2. Electrical wires in a heavy vehicle are not:

a) insulated and protected from damage that could be caused by water, fuel, oil, other fluids, dirt or heat, or

b) clipped or otherwise gathered into looms with an insulating material, where this is practicable.

3. Electrical wires and looms are not:

a) appropriately and securely fastened to the vehicle to protect them from damage, or

b) protected from damage where they pass through holes in the vehicle structure.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Condition

1. The current ratings of the electrical wires in a vehicle must not be exceeded.

2. Electrical wires in a heavy vehicle must:

a) be insulated and protected from damage that could be caused by water, fuel, oil, other fluids, dirt or heat, and

b) if practicable, be clipped or otherwise gathered into looms with an insulating material.

3. Electrical wires and looms must:

a) be appropriately and securely fastened to the vehicle to protect them from damage, and

b) where they pass through holes in the vehicle structure, be protected from damage.

13-5 Electric and hybrid vehicle fuel and electrical system

Reasons for rejection

Condition (Note 1)

1. **High voltage wiring** is:

a) insecure or not adequately secured

b) damaged or deteriorated (including insulation)

c) likely to touch:

i. hot components of the vehicle

ii. sharp edges

iii. rotating parts

iv. the ground.

2. **High voltage batteries** are:

a) insecure or not adequately secured

b) damaged or deteriorated (including components and electrical insulation)

c) leaking, or showing signs of leaking.

3. **High voltage battery or wiring shields** are damaged or not in place.

4. A high voltage component's (eg battery) coolant system is leaking.

5. An electrical system warning lamp is illuminated. See Table 13-5-2 for examples.

Modification

4. A modification affects the electrical system, and:

a) is not excluded from the requirements for specialist certification (Table 13-5-1), or

b) is missing proof of specialist certification, that is:

i. the vehicle is not fitted with a valid certification plate (eg low volume vehicle plate or heavy vehicle certification plate/label), or

ii. the operator is not able to produce a valid modification declaration or authority card

iii. The vehicle has not been certified to an accepted overseas system as described in **Technical bulletin 13**.

Note 1

Vehicle inspectors are only required to do a visual check. An invasive check is not required.

Table 13-5-1. Modifications that do not require specialist certification

Fitting of or modification to:	Specialist certification is not required provided that:
Fuel system changes and modifications	• see fuel system requirements in **Table 13-2-1**. Note: Specialist certification is **always** required for changes to the high voltage electrical system.
High voltage battery and control systems	• the high voltage battery pack is replaced by an OEM or aftermarket replacement; and • there is no change in the operating voltage; and • no modifications to the vehicles structure have occurred; and • the replacement battery pack is attached to the vehicle's unmodified, original battery attachment points; and • the replacement battery pack is similar in size, construction, and weight; and • no modifications have occurred to any other part of the vehicle's high voltage system; and • the vehicle retains any safety features (eg isolation/maintenance switch/connector) fitted by the OEM manufacturer; and • the modifications have been carried out by persons professionally engaged in the modification of electric vehicles. Note: For clarity, 'similar weight' is within 30kg of the original battery pack weight.

Fitting of or modification to:	Specialist certification is never required:
Any modification for the purposes of law enforcement or the provision of emergency services	• in-service requirements for condition and performance must be met.

Table 13-5-2. Electrical system warning icons

General fault The vehicle may indicate exactly what the fault is. If the fault is not from an electrical system, or other safety critical system (eg brakes, steering, electrics, ESC etc.) the vehicle may pass the inspection.	
Vehicle electrical fault The vehicle should be referred to a repairer for diagnostics. If the fault is not from a safety critical system (eg brakes, steering, high voltage electrics, ESC etc.), the vehicle may pass the inspection.	
Limited power/Limp mode This is likely to do with a fault in the electric drive system. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
Serious electrical fault The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
Master warning Could be a warning for any vehicle system and is likely to be serious. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	
High battery temperature Remove the car from any indoor premises immediately and turn the vehicle off. The vehicle should be referred to a repairer for diagnostics. The vehicle must **fail** the inspection.	

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Standards Compliance Rule 2002, section 7.4

Condition and performance

1. The vehicle must be safe to be operated.

2. The components and materials must be fit for their purpose and within safe tolerance of their state when manufactured or modified.

Modifications

3. A modification that affects the electrical system must be inspected and certified by an specialist certifier, unless the vehicle:

a) is excluded from the requirement for specialist certification (Table 13-5-1), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 October 2023** (see amendment details).

14 Load restraints

14-1 Load anchorages

Reasons for rejection

Mandatory requirement

1. A load anchorage point does not have evidence of certification to NZS 5444, ie:

a) the load anchorage point was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,

Note Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or

b) the load anchorage point was fitted after the last CoF inspection and:

i. a valid LT400 form has not been presented, or

ii. the HVS certifier was not of category HVEA or HMAD, or

c) there is no valid certification label or plate attached to the vehicle (usually fitted to the left-hand chassis or coaming rail, or to the load platform) as specified in Table 14-1-1.

Mandatory equipment

2. A vehicle constructed to transport a load is not fitted with load anchorage points (hooks, rope rails, twist locks, tie-down rings, keyhole plates or chain slots), unless the vehicle is one of the following:

a) a vehicle fitted with a body that is specifically designed to contain the transported load without the use of lashings, chains or other devices, such as a tank body or a tipping body for transporting bulk goods (refer to **section 3-1**)

b) a vehicle fitted with a stock crate and stock crate retention devices (refer to **section 14-2**)

c) a curtain-sided body fitted with a load-rated curtain and curtain anchorage system (refer to **section 14-5**)

d) a vehicle fitted with logging bolsters (refer to **section 14-3**).

Condition

3. A certification label or plate:

a) is not indelibly marked, or

b) is illegible, or

c) is attached so that it is not easily visible, or

d) has details that do not match the vehicle, or

e) has obvious signs of tampering.

4. A load anchorage component:

a) is missing, or

b) is not securely attached, or

c) is cracked or deformed, or

d) has significant corrosion damage, or

e) is worn beyond manufacturer's specifications.

Modification and repair

5. A modification or repair affects a load anchorage or its attachment and:

a) is not excluded from the requirements for HVS certification (Table 14-1-2), or

b) is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEA or HMAD has been presented.

Note 1 Definitions

Load-securing equipment means equipment or a device permanently fitted to a vehicle to secure, either by itself or in conjunction with other equipment or devices such as lashings, a load to a vehicle.

Load anchorage point means a device permanently attached to a vehicle to enable a load to be secured or attached to the vehicle.

Table 14-1-1. Minimum certification label and plate details required

NZS 5444: 1989	NZS 5444: 2005
Identity of the manufacturer Rated capacity of the load anchorage points	**Any label or plate issued on or after 1 June 2005 and before 1 December 2016 must contain the information below** Certificate number HVS identifier Number and capacity of each type of load anchorage point fitted VIN or chassis number Any special conditions if applicable
Identity of the manufacturer Rated capacity of the load anchorage points	**Any label or plate issued on or after 1 December 2016 must contain the information below** Compliance Certificate number (LT400) HVS identifier Number and capacity of each type of load anchorage point fitted VIN or chassis number Any special conditions if applicable

Table 14-1-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Fitting of load anchorages 2. A repair (by heating or welding) affects a load anchorage or attachment) 3. A modification affects a load anchorage or attachment	1. Repairs to coaming rails that do not support certified load anchorage points or J-hooks. 2. A vehicle fitted with a bin lifting and hooking mechanism does not require HVS certification to NZS 5444, but the bin must be able to be secured safely using a fail-safe system. This may include a hydraulically operated and locked hook or similar, provided the locking device can only be opened by applying a positive and definitive hydraulic pressure. 3. Tarpaulin hooks and load restraints fitted inside a box- or van-type body, eg to restrain furniture, are not considered to be load anchorages and therefore do not require HVS certification (it is recommended that tarpaulin hooks and rails are identified to be used only for retaining tarpaulins). 4. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date required certification but for inspection purposes the LANDATA record need not be checked). 5. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative, or a reputable workshop).

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- New Zealand Standard 5444: 1989, Load Anchorage Points for Heavy Vehicles
- New Zealand Standard 5444: 2005, Load Anchorage Points for Heavy Vehicles (applicable from 1 June 2005).

Mandatory requirement

1. Load anchorage points (hooks, rope rails, twist locks, tie-down rings, keyhole plates and chain slots) must comply with and be certified to NZS 5444.

Mandatory equipment

2. A vehicle that is constructed to transport a load must be fitted with load securing equipment (Note 1).

3. A vehicle must have load anchorage points that are certified by an HVS certifier as complying with New Zealand standard 5444, unless the vehicle is one of the following:

> a) a vehicle fitted with a body that is specifically designed to contain the transported load without the use of lashings, chains or other devices, such as a tank body or a tipping body for transporting bulk goods (refer to section 3-1), or

b) a vehicle fitted with a stock crate and stock crate retention devices (refer to **section 14-2**), or

c) a curtain-sided body fitted with a load-rated curtain and curtain anchorage system (refer to **section 14-5**), or

d) a vehicle fitted with logging bolsters (refer to **section 14-3**).

4. A load anchorage must be certified by an HVS certifier of category HMLD or HVEA.

Condition

5. A certification label or plate must be:

a) clearly and indelibly marked, and

b) securely attached.

6. Load securing equipment that is fitted to a vehicle must be constructed to ensure that the load can be securely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

7. A modification or repair that affects a load anchorage point must be inspected and certified by an HVS certifier of category HVEA or HMAD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 14-1-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**)

14-2 Stock crates and stock crate retention devices

Reasons for rejection

Mandatory equipment

(see **Technical bulletin 7: Stock crate retention**)

1. A stock crate, including its retention devices (Figure 14-2-1), fitted to a vehicle with a GVM of 6000 kg or more, has no manufacturer's plate certifying construction in accordance with NZS 5413, that specifies at least all of the following details:

- company name
- stock crate serial number
- date of manufacture of stock crate
- restraint capacity total in kilograms (not required for monocoque stock crates)
- restraint capacity individual in kilograms (not required for monocoque stock crates)
- number of restraints per side (not required for monocoque stock crates).

2. Stock crate anchorage points fitted to the deck have not been certified to NZS 5444, ie:

a) the stock crate anchorage points were fitted before the last CoF inspection, and after 1 January 1997, and there is no LANDATA record,

Note Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or

b) the stock crate anchorage points were fitted after the last CoF inspection and:

i. a valid LT400 form is not presented, or

ii. the HVS certifier was not of category HVEA or HMAD, or

iii. there is no valid certification plate/label attached to the stock crate as required in Table 14-2-1. Refer to **Technical Bulletin 7: Stock crate certification** for details on the plating requirements for vehicles fitted with stock crates.

Condition

3. A certification label or plate:

a) is not indelibly marked, or

b) is illegible, or

c) is attached so that it is not easily visible, or

d) has details that do not match the vehicle, or

e) has obvious signs of tampering.

4. The stock crate's external doors:

a) are not securely attached to the stock crate body, or

b) do not remain secure in a closed or locked position.

5. A J-hook assembly or other retention device, or an anchorage point:

a) is not securely attached, or

b) has a bush, fastener, washer, J-hook or other component missing or significantly corroded, or

c) is cracked or distorted, or

d) has cracks or corrosion damage on the stock crate within 150mm of the retention device attachment point, or

e) is not of a type suitable for retaining the stock crate, or

f) is worn beyond manufacturer's specifications.

Modification and repair

6. A modification or repair affects the stock crate or its retention devices and:

a) is not excluded from the requirements for HVS certification (Table 14-2-2), or

b) is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEA or HMAD has been presented.

Note 1 Definitions

Body means the part of the vehicle that is designed for the use and accommodation of the occupants or to hold any goods. It comprises the load platform/deck, headboard, sideboards, tailgate, coaming rails, cross-members, runners and attachment to the chassis.

Chassis means the structural lower part of a vehicle to which the running gear and, as applicable, engine, transmission, steering system and body may be attached.

J-hook means a retention device fabricated from metal for the retention of stock crates to the vehicle load platform, mounted in such a way as to be fixed either inside or outside the coaming rail vertically and tensioned through a bush on the crate structure by way of a threaded fastener.

Load anchorage point means a device permanently attached to a vehicle to enable a load to be secured or attached to the vehicle.

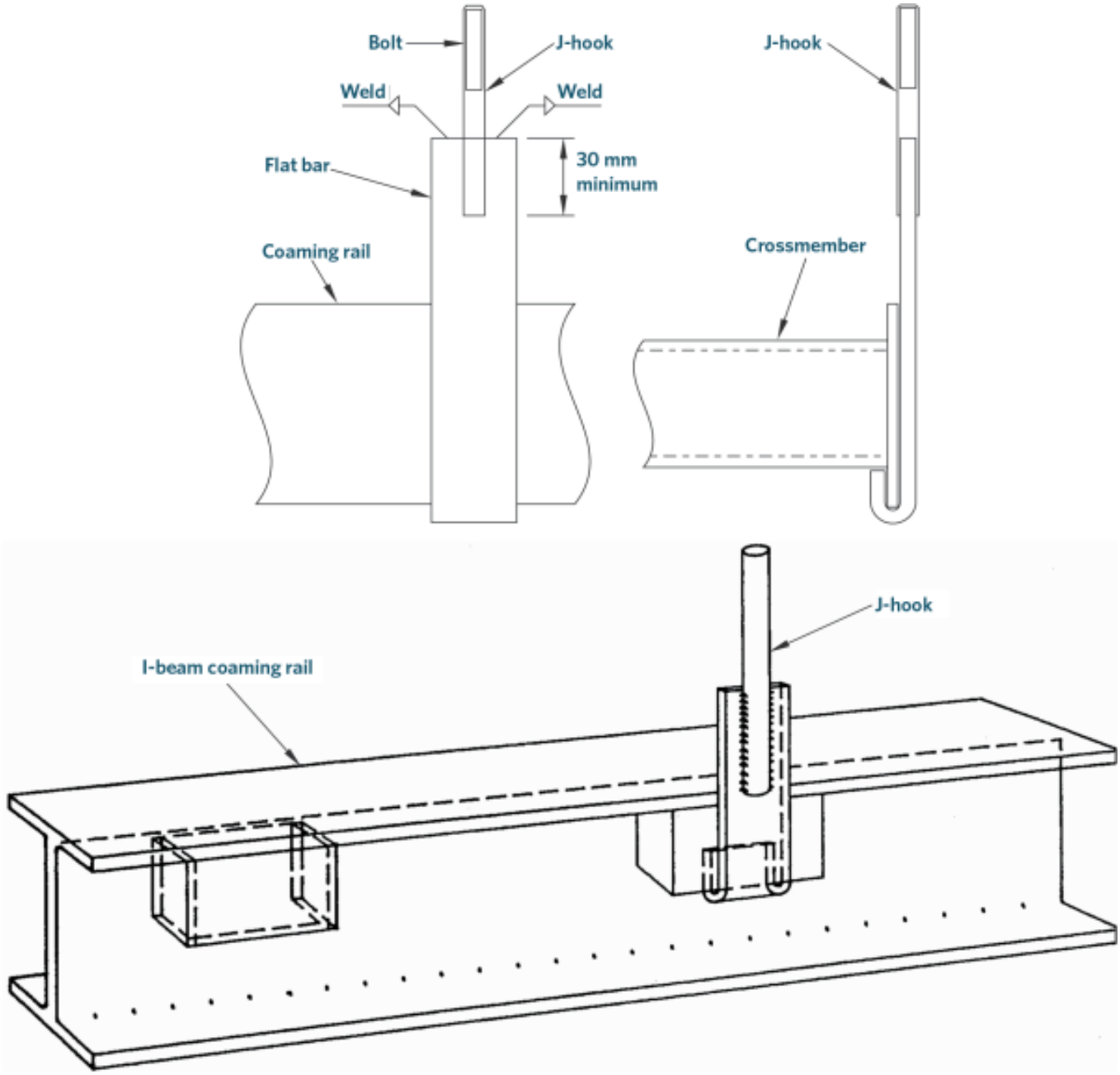
Table 14-2-1. Minimum certification label and plate details required

NZS 5444: 1989	NZS 5444: 2005
Identity of the manufacturer Rated capacity of the load anchorage points	Certificate number HVS identifier Number and capacity of each type of load anchorage point fitted VIN or chassis number Any special conditions if applicable Note Any label or plate issued on or after 1 June 2005 must contain the above information.

Table 14-2-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Stock crate retention devices that have been modified or repaired resulting in altered load ratings	1. A stock crate retention device has been repaired or modified, and the HVS Certifier can confirm that the load ratings are still correct. 2. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes the LANDATA record need not be checked). 3. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, eg the manufacturer's representative,or a reputable workshop).

Figure 14-2-1. Types of acceptable J-hooks



Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- New Zealand Standard 5413: 1993, Code of Practice for the Manufacture and Use of Stock crates on Heavy Vehicles
- New Zealand Standard 5444: 1989, Load Anchorage Points for Heavy Vehicles
- New Zealand Standard 5444: 2005, Load Anchorage Points for Heavy Vehicles.

Mandatory equipment

1. A stock crate and its retention devices, if fitted to a vehicle with a GVM of 6000 kg or more, or be fitted with a stock crate plate (see **Technical bulletin: Stock crate retention**).

2. Stock crate anchorage points fitted to the deck of a vehicle must comply with and be certified to NZS 5444.

3. There is no valid certification plate/label attached to the stock crate or vehicle as required in Table 14-2-1.

4. Stock crate retention devices must be attached to the crate structure so as to transmit the restraint forces to the vehicle load platform or basic vehicle structure.

Condition

5. External doors shall be firmly fixed to prevent stock from being ejected onto the roadway.

6. Load securing equipment must be constructed to ensure that the load can be safely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

7. A modification or repair that affects a stock crate anchorage point must be inspected and certified by an HVS certifier of category HVEA or HMAD unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 14-2-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**)

14-3 Log bolsters

Reasons for rejection

Mandatory requirement

1. A logging bolster attachment fitted to a vehicle that is required to be certified in Table 14-3-1 does not have evidence of certification.

2. A logging bolster attachment fitted to a vehicle certified to the Bolster Attachment Code (issue 1 May 2001 and issue 2 November 2010) does not have evidence of certification, ie:

a) the attachment was fitted before the last CoF inspection and there is no LANDATA record of the certification, or

b) the attachment was fitted after the last CoF inspection and:

i. a valid LT400 form is not presented, or

ii. the HVS Certifier was not of category HVEL or HMLD, or

c) individual bolsters are not stamped, indelibly labelled or marked to clearly identify their serial numbers, or

d) individual bolster attachments are not stamped, indelibly labelled or marked to clearly identify their serial numbers, or

e) the vehicle is not fitted on the left-hand chassis rail with at least one tag clearly identifying the bolsters, bolster attachments, bolster rating, HVS Certifier, bolster manufacturer, vehicle and expiry date.

3. A logging bolster attachment fitted to a vehicle certified to the Bolster Attachment Code (issue 27 November 1998) does not have evidence of certification, ie:

a) there is no LANDATA record of the certification, or

b) individual bolsters are not stamped, indelibly labelled or marked to clearly identify the bolster manufacturer, bolster serial number and rated bolster load, or

c) the vehicle is not fitted on the left-hand chassis rail with at least one tag to clearly identify the bolsters, bolster attachment, vehicle and expiry date.

4. A logging bolster attachment on a long-log logging vehicle fitted with a convertible (sliding or folding) bolster does not have evidence of certification required in Table 14-3-1, ie there is no LANDATA record of the certification.

Condition

5. A required certification label, plate, or marking is:

a) illegible, or

b) incorrect, eg serial numbers differ between the label and the bolsters, or

c) expired.

6. A log bolster or log bolster mounting, including a component such as a load cell, weld and fastener:

a) is missing, or

b) is not securely attached, or

c) is cracked or deformed, or

d) has significant corrosion damage, or

e) is worn beyond manufacturer's specifications, or

f) has excessive wear between mating surfaces.

7. A sliding bolster locking device is:

a) missing, or

b) not effective, or

c) of an unacceptable type, eg air or hydraulic slide cylinder or chain drives.

Modification and repair

8. A modification or repair affects the log bolster or its attachment and:

a) is not excluded from the requirements for HVS certification (Table 14-3-2), or

b) is not for the purpose of law enforcement or the provision of emergency services, or

c) is missing proof of HVS certification, ie the vehicle has been modified or repaired, and:

i. no LANDATA record has been entered, or

ii. no valid LT400 form from an HVS certifier of category HVEL or HMLD has been presented.

Note 1

A convertible bolster is usually slid to a different position or dropped down to allow long logs to span two trailers.

Note 2

Logging bolster means a vertically orientated member attached to a vehicle that is used to secure loads of timber logs.

Table 14-3-1. Logging bolster attachment certification requirements

Fitted before 1 October 1999	**Fitted 1 October 1999– 30 April 2001**	**Fitted from 1 May 2001– 30 September 2011**	**Fitted from 1 October 2011**

No certification	Either:
	• Bolster Attachment Code (issue 27 November 1998), or
	• Bolster Attachment Code (issue 1 May 2001), or
	• optional for convertible bolsters on long-log logging vehicles:
	  ○ certification that the same design of bolster attachments has successfully completed 250,000km of service on a single vehicle without indications of fatigue or failure.
		All bolster attachments:
		• Bolster Attachment Code (issue 1 May 2001), or
		• optional for convertible bolsters on long-log logging vehicles:
		  ○ certification that the same design of bolster attachments has successfully completed 250,000km of service on a single vehicle without indications of fatigue or failure.
			All bolster attachments:
			• Bolster Attachment Code (issue 2 November 2010), or
			• optional for convertible bolsters on long-log logging vehicles:
			  ○ certification that the same design of bolster attachments has successfully completed 250,000km of service on a single vehicle without indications of fatigue or failure.

Table 14-3-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Any repairs to the bolster attachments	1. Where a fastener fails the inspection, the CoF inspector must request a written report from an HVS certifier of category HVEL or HMLD who will disassemble the fasteners and confirm that: a) movable parts such as lock pins have been checked for proper operation and engagement, and b) mating parts seat correctly, and c) fasteners have been fitted to manufacturer's specifications and bolt torques are correct, and d) any other manufacturer's requirements have been complied with. 2. Any modification or repair likely to have been carried out before 1 October 1999. 3. Any repair or modification not listed in the left-hand column unless the vehicle inspector considers that certification is required because the modification or repair has affected the vehicle's safety performance (a second opinion from an expert may be needed, for example the manufacturer's representative, or a reputable workshop).

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- Bolster Attachment Code, issue 27 November 1998
- Bolster Attachment Code, issue 1 May 2001
- Bolster Attachment Code, issue 2 November 2010
- New Zealand Gazette, 14 January 1999, issue 1, page 64
- New Zealand Gazette, 27 May 1999, issue 60, page 1431
- New Zealand Gazette, 26 April 2001, issue 43, page 957.

Mandatory requirement

1. A logging bolster attachment fitted to a vehicle must comply with the requirements in Table 14-3-1.

2. Certification of a logging bolster attachment must be by an HVS certifier of category HVEL or HMLD .

Mandatory equipment

Bolster Attachment Code (issue 27 November 1998)

3. Individual bolsters must be stamped, indelibly labelled or marked to clearly identify the:

a) bolster manufacturer, and

b) bolster serial number, and

c) rated bolster load.

4. The vehicle must be fitted, on the left-hand side chassis rail as far as practicable in line with the front of the coaming rail, with at least one tag identifying the:

a) bolsters, and

b) bolster attachment, and

c) vehicle, and

d) expiry date.

Bolster Attachment Code (issue 1 May 2001 and issue 2 November 2010)

5. Individual bolsters must be stamped, indelibly labelled or marked to clearly identify their serial number.

6. Individual bolster mounts must be stamped, indelibly labelled or marked to clearly identify their serial number.

7. The vehicle must be fitted with at least one tag identifying the bolsters, bolster attachments, bolster rating, the HVS certifier, the bolster manufacturer, the vehicle and the expiry date.

Condition

8. Load-securing equipment that is fitted to a vehicle must be constructed to ensure that the load can be securely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

9. A load-bearing structure must be of adequate strength for all conditions and loading for which the vehicle was constructed.

Modification and repair

10. A modification or repair that affects a log bolster attachment must be inspected and certified by an HVS certifier of category HVEL or HMLD , unless the vehicle:

a) is excluded from the requirement for HVS certification (Table 14-3-2), and

b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

Page amended **1 April 2023** (see **amendment details**)

14-4 Cab-guards, headboards, sideboards and tailboards

Reasons for rejection

Mandatory equipment

1. A logging truck is not fitted with a cab guard, or the cab guard:

a) is not attached to the chassis, or

b) is not at least as wide and as high as the cab, or

c) has apertures that could allow any forward-moving logs to pass through the cab guard.

Condition

2. A cab guard on a logging truck, or a headboard, sideboard or tailboard:

a) is not securely attached, or

b) has a fastener that is missing or loose, or

c) is cracked or significantly distorted or corroded.

Note 1 Definitions

Cab guard means a structure attached to a vehicle that provides protection to the cab occupants from the effects of load impact and may include a headboard.

Headboard means the substantially vertical part of the forward end of a flat-deck or curtain-sided body of a vehicle.

Sideboard means the substantially vertical part of the side of a flat-deck body of a vehicle.

Tailboard means the substantially vertical part of the rear end of a flat-deck or curtain-sided body of a vehicle.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Mandatory equipment

1. A vehicle constructed for the purpose of transporting timber logs must be fitted with a cab guard that:

a) is attached to the chassis, and

b) is at least as wide and as high as the cab, and

c) does not have apertures that could allow any forward-moving logs to pass through the cab guard.

Condition

2. A cab guard on a logging truck, and its attachment to the chassis:

a) must be strong enough to withstand load impact during loading, unloading and emergency braking, and

b) must not adversely affect the strength and durability of the chassis or cause damage to the chassis during heavy load impact.

3. A headboard, sideboard or tailboard fitted to a vehicle for the purpose of restraining a load on that vehicle must be of adequate strength to withstand load forces without incurring permanent deformation.

4. A headboard, sideboard or tailboard must be fitted to a vehicle in a way that ensures that the parts of the vehicle to which it is attached are able to withstand the forces exerted by the headboard, sideboard or tailboard without incurring permanent deformation.

14-5 Curtain systems

Reasons for rejection

Condition

1. A load-rated curtain (Note 1) (Note 2):

    a) is ripped, or

    b) has deteriorated, resulting in weakening of the curtain material, eg crazing, brittleness or stiffness, or

    c) has become detached from the frame, or

    d) has been poorly repaired.

2. A load-rated curtain-tensioning system component:

    a) is missing, or

    b) is not securely attached, or

    c) is damaged, cracked or deformed, or

    d) has significant corrosion damage, or

    e) is worn beyond manufacturer's specifications, or

    f) does not function correctly.

3. A non-load-rated curtain has deteriorated to such an extent that parts could come loose (Note 3).

Note 1

For the purposes of this inspection, a **load-rated curtain** is one that has labelling that includes the manufacturer's load rating in kilograms per metre.

Note 2

Advice from the curtain manufacturer may be required in case of doubt about damage and deterioration limits and quality of repairs.

Note 3

For curtain siders that are not load rated, refer to section **14-1 Load anchorages** for requirements.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Heavy Vehicles 2004**.

Mandatory equipment

1. If a vehicle has a curtain-sided body that is constructed to secure a load on a vehicle, each curtain and curtain anchorage system must:

a) have a manufacturer's load rating appropriate for all conditions of loading and operation of the vehicle, and

b) be clearly marked with the manufacturer's load rating in kilograms per metre, in a position on the curtain that is readily accessible for inspection purposes.

Condition

2. Load-securing equipment that is fitted to a vehicle must be constructed to ensure that the load can be securely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

15 Certificate of loading

15-1 Certificate of loading

Reasons for rejection

Mandatory requirement

1. A heavy vehicle that requires a certificate of fitness (Note 1) does not have a certificate of loading (Note 2) displayed on the vehicle.

2. The vehicle is one of the following and the CoL is no longer valid:

a) the vehicle has been modified so as to require heavy vehicle specialist certification, or

b) the vehicle has been de-registered, or

c) an application for a change of use has been made (ie an MR14 has been completed) and the requirements for CoL differ for the new use, eg change from PSV to motorhome.

3. An invalid certificate of loading has not been surrendered to the vehicle inspector (Note 3).

Condition

4. A certificate of loading:

a) is illegible, or

b) is attached so that it is not easily visible, or

c) has details that do not match the vehicle, or

d) has obvious signs of tampering.

Note 1

Vehicles that require a certificate of fitness are listed in **section 3.3.1** in the Introduction of this manual.

Note 2

Certificate of loading means a certificate issued under this section to a vehicle that requires verification of its loading and weight limits.

Note 3

A vehicle with an invalid certificate of loading requires a new certificate of loading.

Figure 15-1-1. Certificate of loading

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Standards Compliance 2002**.

Mandatory requirement

1. A heavy vehicle that requires a certificate of fitness (Note 1) requires a certificate of loading (Note 2).

2. Before issuing a certificate of fitness, a vehicle inspector must determine that a current certificate of loading is still valid, if one or more of the following events has occurred since the current certificate of loading was issued:

    a) the vehicle has been modified so as to require heavy vehicle specialist certification, or

    b) the vehicle has been de-registered, or

    c) an application for a change of use has been made under section 16 of the Transport (Vehicle and Driver Registration and Licensing) Act 1986 and the requirements for certificates of loading differ for the new use.

3. If a vehicle inspector has determined that a current certificate of loading for a vehicle is no longer valid, they must request the vehicle's operator to surrender the certificate to the NZTA.

16 Transport service licence

16-1 TSL

Mandatory requirement

1. The operator of a vehicle that requires a transport service licence (Table 16-1-1) has not notified (Note 2) the vehicle inspector of the transport service licence number under which the vehicle is operated.

Note 1

If correctly licensed, a vehicle requiring a transport service licence can be identified by the 'T' or 'L' on the vehicle licence label.

Note 2

Every vehicle that operates in a goods service or vehicle recovery service must display a TSL label that identifies the TSL number the vehicle is presently operated under (see Figure 16-1-1). For CoF purposes, the vehicle inspector must record the number on the TSL label. Where there is no TSL label, or for a rental vehicle, the KSDP is expected to make a reasonable effort to request the TSL number from the driver. The TSL number must be entered into the system when the inspection is recorded, but where a TSL number cannot be obtained, fault code VLP must be entered.

Table 16-1-1. Requirements for transport service licences

Vehicles that require	Vehicles that do not require
Goods service licence:	
Heavy vehicles with a GVM of 6000 kg or more and capable of carrying goods	Vehicle recovery service vehicle Vehicles running on tracks and rollers Vehicles that operate solely in areas to which the public does not have right of access Vehicles used as places of abode that are not used in a rental service (eg motorhomes and dual-purpose motorhomes carrying horses where at least 50% of the floor space is constructed for human accommodation (this includes dedicated tractor and semi-trailer motorhomes)) Vehicles listed as farm vehicles (ie exempt class B licence) Vehicles used by registered traders to carry goods for demonstration and sale purposes Tractors and traction engines Forklifts Hearses Mobile cranes Fire engines Mobile machines
Vehicle recovery service licence:	
Vehicle recovery service vehicles (ie designed or adapted for the purpose of towing or carrying motor vehicles for hire or reward)	Recovery vehicles of the New Zealand Defence Force
Rental service licence:	
Rental vehicles	

Figure 16-1-1. Sample TSL label

Summary of legislation

Applicable legislation

- Land Transport Act 1998 (section 30A).

Mandatory requirement

Business details

1. No certificate of fitness shall be issued in respect of any transport service vehicle unless the vehicle inspector has been notified of the transport service licence number under which the vehicle is being operated.

Page amended **2 December 2019** (see amendment details).