Correct as at 25th April 2026. It may be superseded at any time.

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

Heavy trailers

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.

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 4).

2. A vehicle first registered or re-registered in New Zealand from 1 April 1994 does not have a VIN number (Note 1) (Note 4).

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

Condition

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

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 3).

Note 1

The VIN is normally found on the outside of the chassis adjacent to the right front wheel. 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.

Note 2

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.

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**, **i4Checkpoint**). 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 3

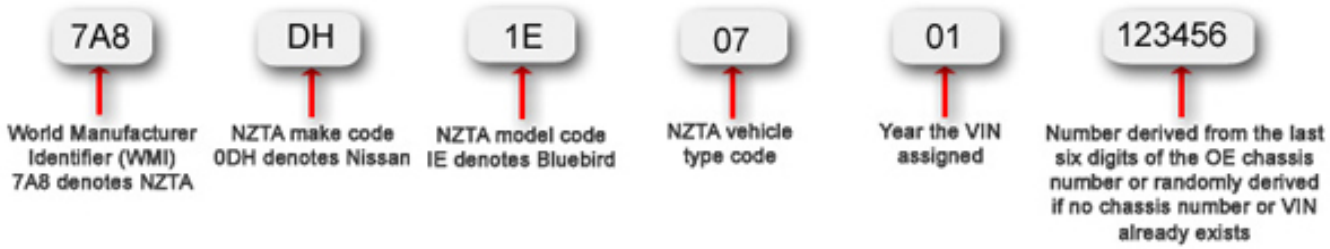
A valid VIN is a unique number that has been assigned to the vehicle in the vehicle's country of origin or by a person appointed by the NZTA. It consists of 17 characters that never contain the letters I, O or Q, and that is capable of being decoded to provide identifying information about the vehicle.

Note 4

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

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

Pre-29 November 2009



Post-29 November 2009

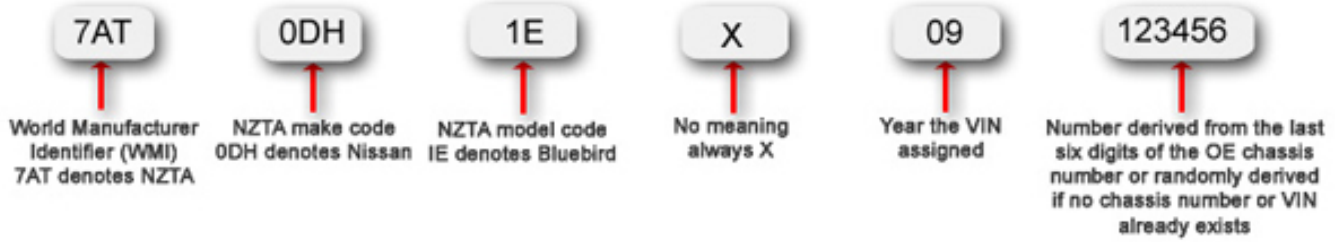
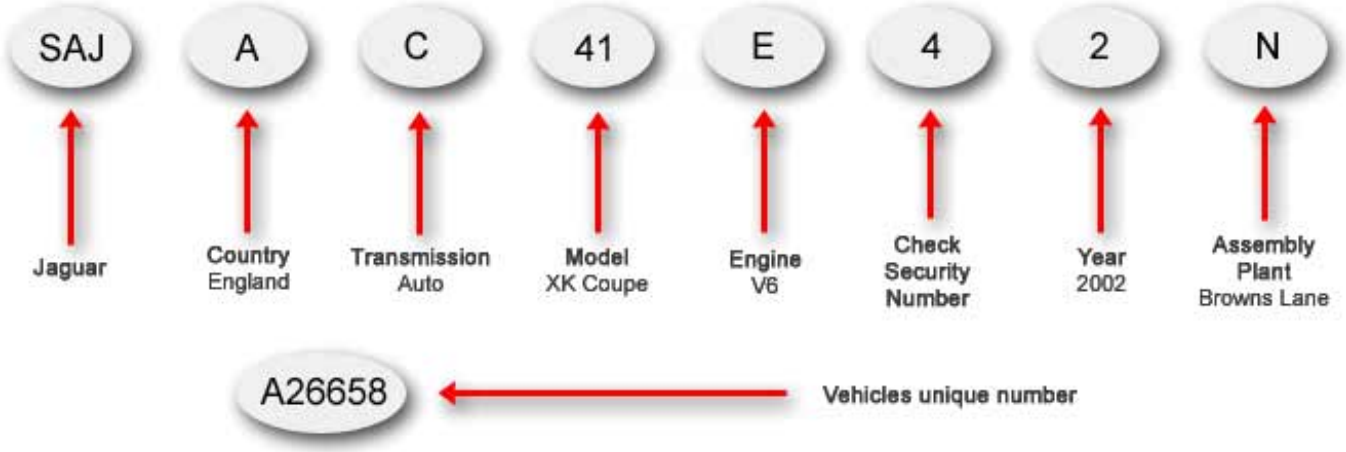
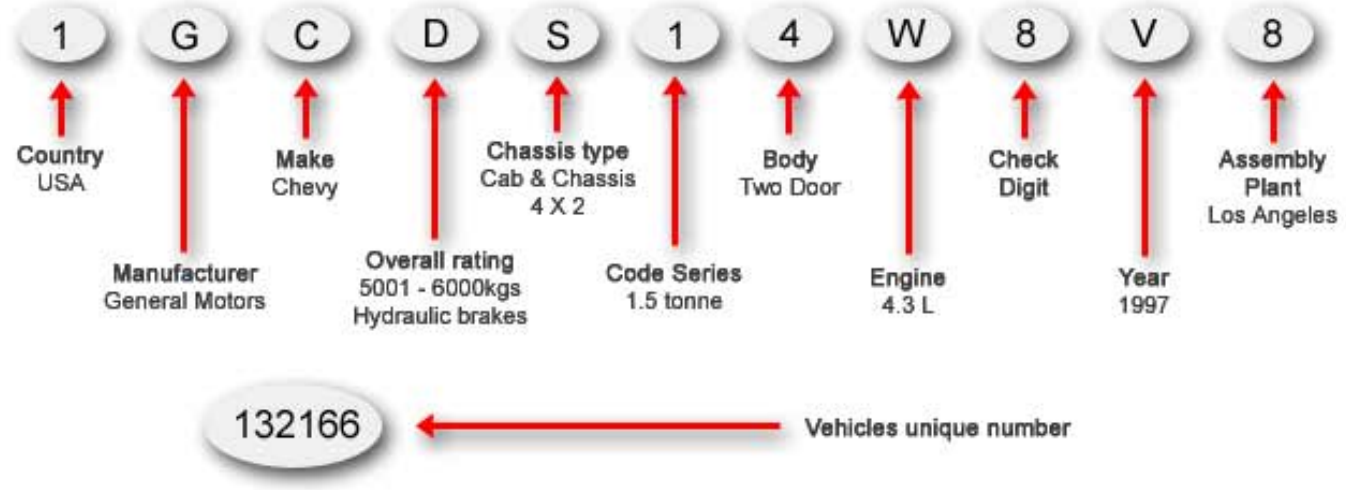


Figure 1-1-2. Structure of a VIN issued by the vehicle manufacturer

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 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.
Container

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 (Note 1)

1. The risk of a component (Note 2) hooking a vehicle, or hooking or grazing a person, has not been minimised.

2. An ornamental object or fitting (Note 3) protrudes in such a way that it is likely to injure a person.

3. A protruding object or fitting (Note 4) that has a functional purpose 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) exceeds the vehicle’s width by more than 100mm on either side.

4. A protruding component, object or fitting is not securely fitted.

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

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 3

Ornamental object or fitting means any object or fitting that does not have a practical purpose.

Note 4

Functional object or fitting means an object or fitting that has a practical purpose, eg load restraints.

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.

2-2 Dimensions

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

Reasons for rejection

Mandatory equipment

1. A trailer with a GVM of 3501kg or more exceeds the dimension requirements set out in Table 2-2-3 and is not fitted with the appropriate hazard warning equipment set out in Table 2-2-4.

2. A trailer exceeds the dimensions set out in Table 2-2-3 and is not:

    a) a specialist overdimension trailer (Note 1), or

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

c) a trailer 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 4) (Figure 2-2-10).

Note 1 Definitions

Specialist overdimension trailer means a trailer where its primary purpose is to carry out a specialist function that requires overdimension equipment, 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.

Caravan trailer means a trailer that is permanently equipped with features intended to make the vehicle suitable as a dwelling place, and must include at least one sleeping berth and one table, both of which may be of a design that allows them to be retracted or folded away.

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 NZTA, a regional council or an authorized delegate).

Note 2

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 3

An HPMV is not required to comply with the Hazard warning equipment requirements of Table 2-2-4.

Note 4

The entry certification and permit application declaration forms can be downloaded from the NZTA 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 trailers (see Figure 2-2-9) (Note 2)

Dimension	Maximum distance	Comments
Width	2.55m, or 1.275m from each side of the longitudinal centreline of the vehicle	Measurement does not include: • direction indicators and side-marker lamps • 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 • 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.
Overall length	11.5m (full trailer, pole trailer) 12.5m (simple trailer) 18m (towing vehicle and semi-trailer with a quad axle-set with two steering axles) 19m (towing vehicle and semi-trailer with any axle set other than a quad axle-set with two steering axles) 20m (towing vehicle and full trailer (excluding load)) 22m (towing vehicle and full trailer (including load if load overhanging the rear of the trailer does not exceed 2.3m in width, or 1.15m from the longitudinal centreline of the vehicle)) 22m (towing vehicle and simple trailer) 20m (any other vehicle combination)	Measurement does not include collapsible mirrors.
Height	4.3m	

Dimension	Maximum distance	Comments
Forward distance	8.5m (full trailer, simple trailer, pole trailer with drawbar at full extension) 9.2m (semi-trailer)	Forward distance is measured from: • full trailer: from the rear axis to the front of the trailer body/chassis (excludes drawbar and front axle set with its associated carriage) or load, whichever is foremost • simple trailer: from the rear axis to the centre point of attachment to the towing vehicle • pole trailer with two axle sets: from the front axis to the centre of the point of attachment to the towing vehicle with the drawbar fully extended. • pole trailer with one axle set: from the rear axis to the point of attachment to the towing vehicle with the drawbar fully extended • semi-trailer: from the rear axis to the centre of the kingpin 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.
Rear overhang	4m (for a trailer first registered anywhere before 1 December 1989) The lesser of 4m or 50% of forward distance (simple trailer, pole trailer with one axle set) The lesser of 4m or 50% of wheelbase (full trailer, pole trailer with two axle sets) The lesser of 4.3m or 50% of forward distance (semi-trailer [other than a class TC caravan trailer]) The lesser of 4m or 65% of forward distance (class TC caravan trailer that is a semi-trailer)	Rear overhang is measured from: • pole trailer: from the rear axis or centre of bolster to the rear of the vehicle, whichever is the greater. • other trailers: 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.

Dimension	Maximum distance	Comments
Front overhang	2.04m radius arc ahead of: • kingpin centre (semi-trailer) • tow coupling centre (simple trailer) • turntable centre (full trailer) • turntable centre on towing vehicle (pole trailer)	Front overhang is measured to the foremost point of the trailer (except for full trailer), from the following positions: • semi-trailer: centre of kingpin • full trailer: centre of turntable to front of trailer body (excludes drawbar) • simple trailer: centre of tow coupling • pole trailer: centre of turntable on towing vehicle.
Rear trailing unit distance	14.5m (A-train, B-train, towing vehicle and two trailers)	Rear trailing unit distance is measured from the centre of the fifth wheel or tow coupling on the towing vehicle to the rear of the combination.
Articulated vehicle point of attachment	No further rearward than the rearmost axle of the leading trailer	Applies to B-train leading trailer only.
Coupling point distance	30% of forward distance of semi-trailer	• Applies to A-train only. • Measure from the rear axis of the semi-trailer to the tow coupling centre of the full trailer.
Inter-vehicle spacing	4m (between any two consecutive vehicles in a combination)	• Inter-vehicle spacing is the distance between a towing vehicle (excluding the tow coupling shroud) and trailer (excluding the drawbar or tow rope or front dolly). • The inter-vehicle spacing between a towing vehicle and a full trailer must not be less than the greater of 1m or half the width of the foremost point of the trailer (excluding the drawbar and front dolly assembly).
Turning circle	25m outside diameter	• The vehicle combination must be able to complete a 360 degree turn in either direction. • No part of the trailer must encroach outside the outside diameter.

Table 2-2-4. Hazard warning equipment requirements for vehicles that exceed the dimensions in Table 2-2-3 (see Figure 2-2-8 for vehicle category thresholds) (Note 3)

Vehicle category (See Figure 2-2-8)	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	Flags[1] or panels[2] fitted on each side at the front and rear as close as practical to the outside edge
	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 2. OVERSIZE sign[3] fitted at the front and rear if more than 3.1m 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 2. OVERSIZE sign[3] fitted at the front and rear
	Front overhang	10m, or	
	Rear overhang	10m	
Category 4 (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 2. OVERSIZE sign[3] fitted at the front and rear
	Front overhang	10m, or	
	Rear overhang	10m	

Vehicle category (See Figure 2-2-8)	Dimension	Limits (up to and including)	Required hazard warning equipment
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

Note Additional operational requirements may apply, eg if operated at night.

[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 at least of the minimum dimensions and of the colours specified in Figure 2-2-6.

[3] OVERSIZE sign:

- must be black lettering on 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 2-2-6. Hazard panel details

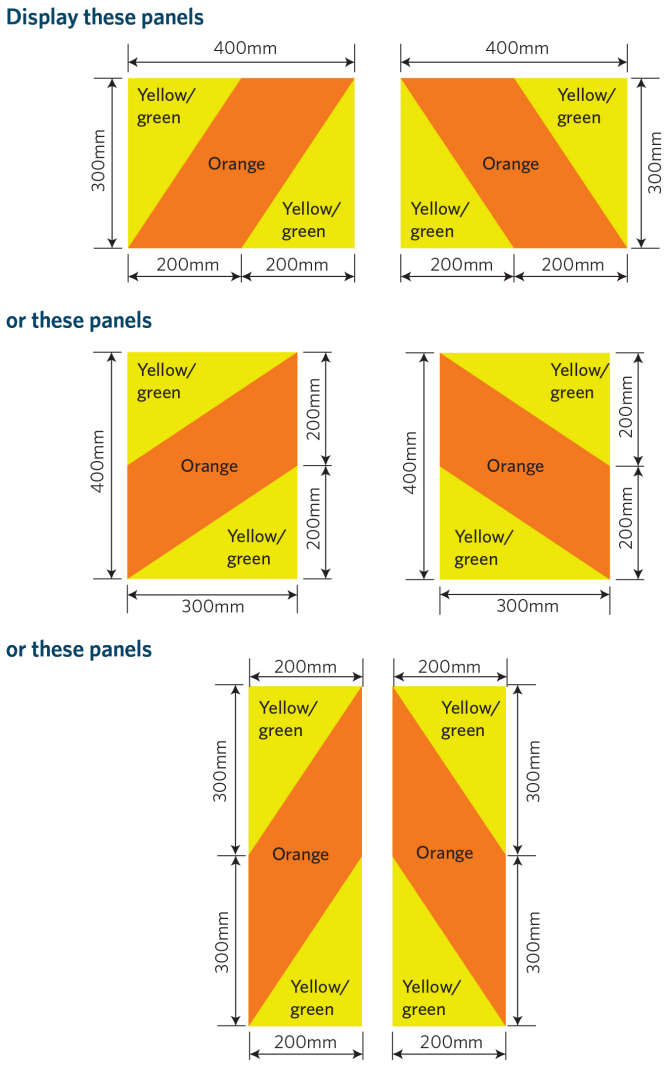


Figure 2-2-7. Hazard panel location and orientation

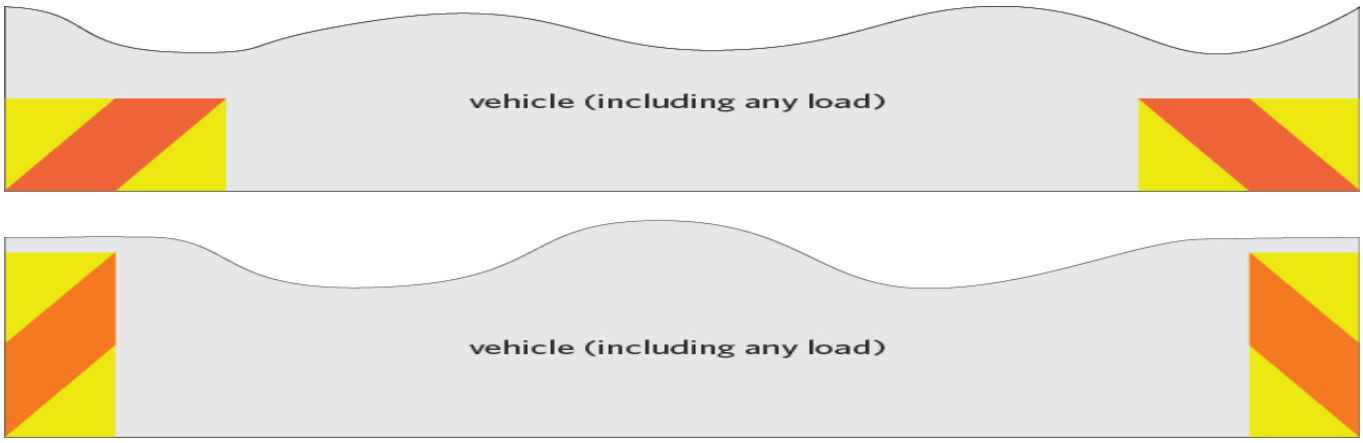


Figure 2-2-8. Vehicle categories and width/forward distance thresholds.

Use this figure to determine the correct category referred to in Table 2-2-4.

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

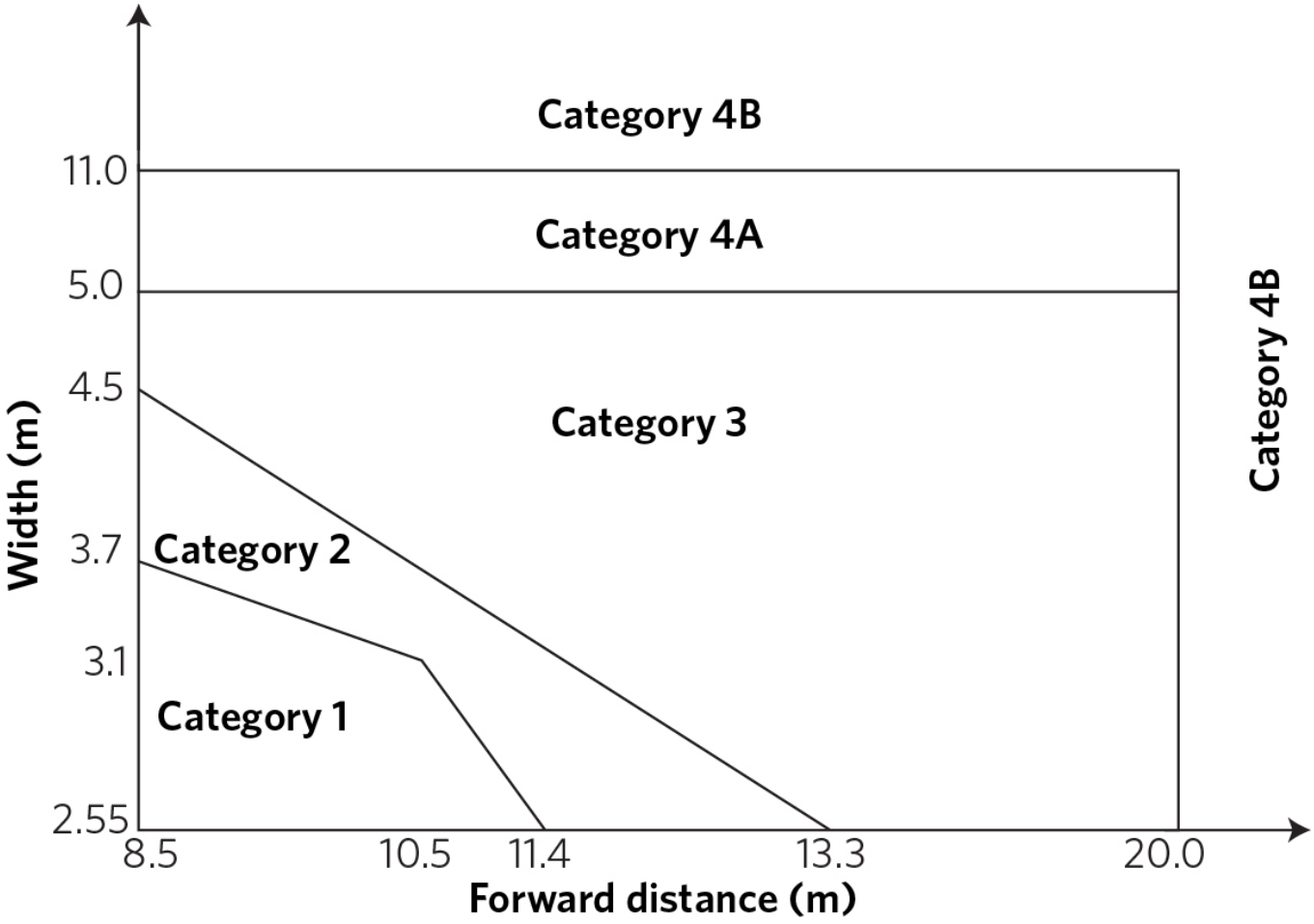
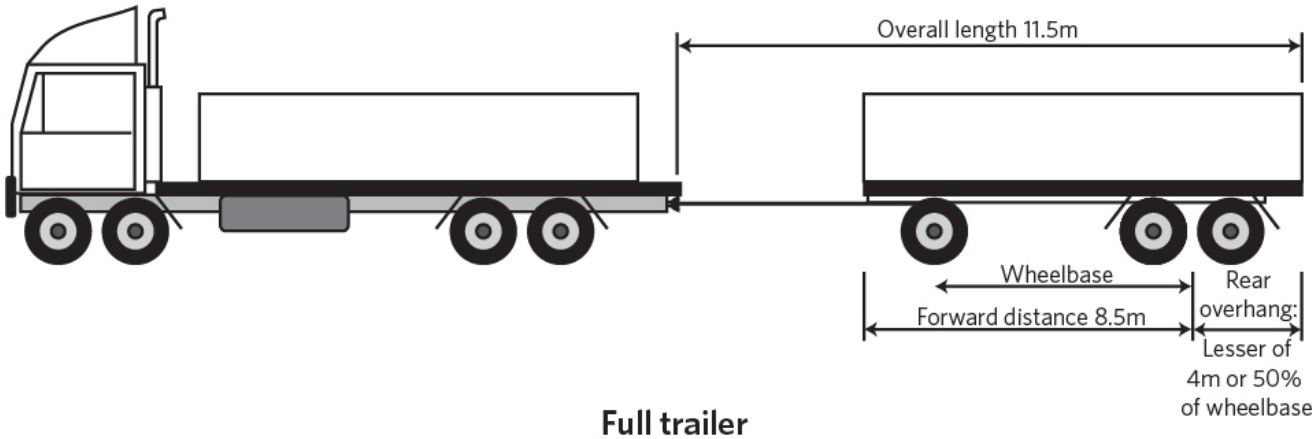
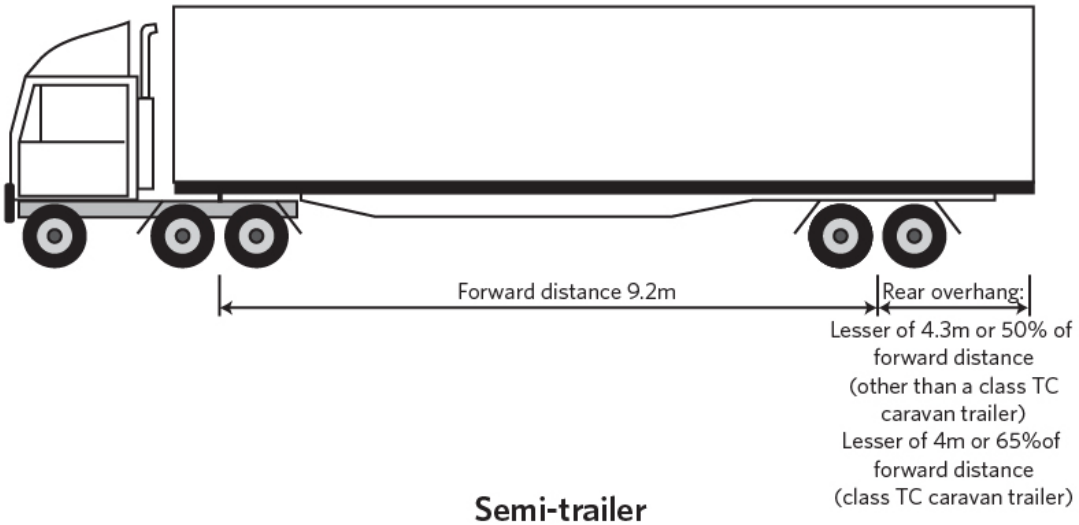

Category 4B
11.0
Category 4A
5.0
4.5
Category 3
Category 4B
Width (m)
3.7
Category 2
3.1
Category 1
2.55
8.5
10.5
11.4
13.3
20.0
Forward distance (m)

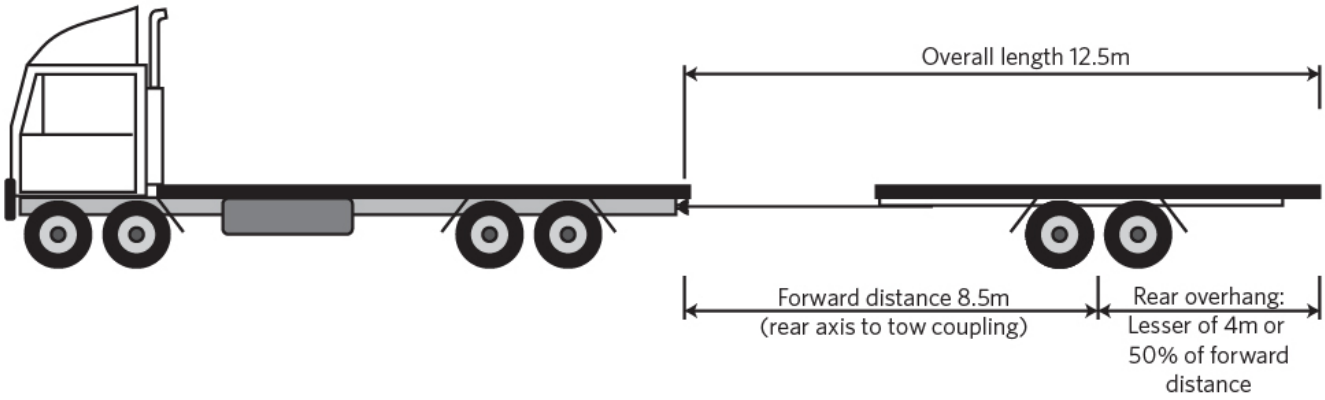
Figure 2-2-9. Heavy trailer dimensions



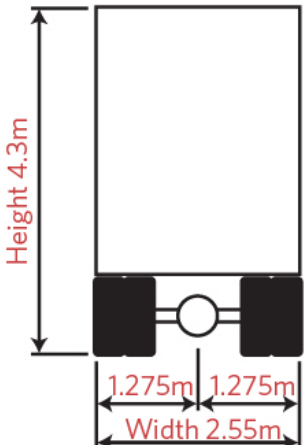
Full trailer

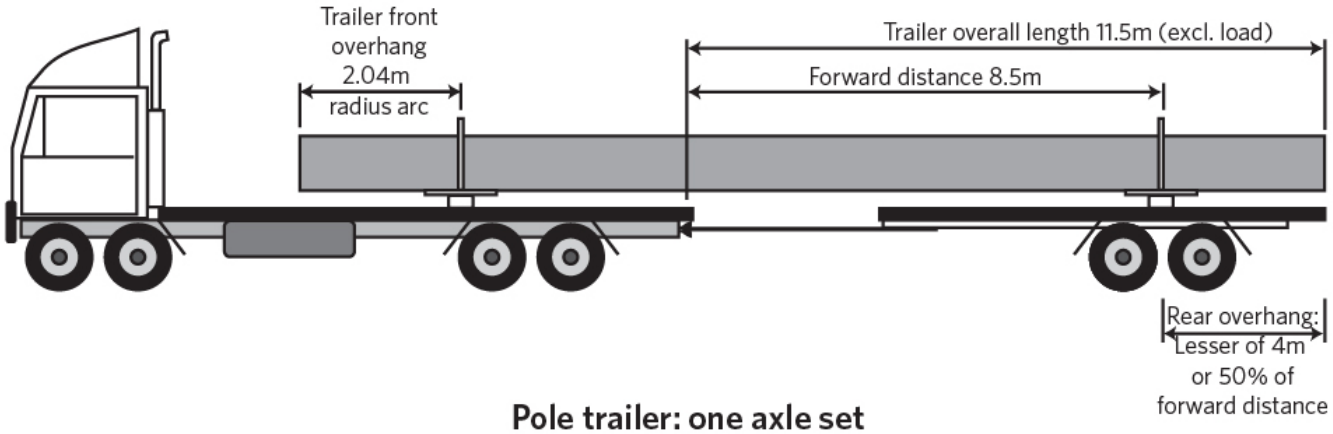


Semi-trailer

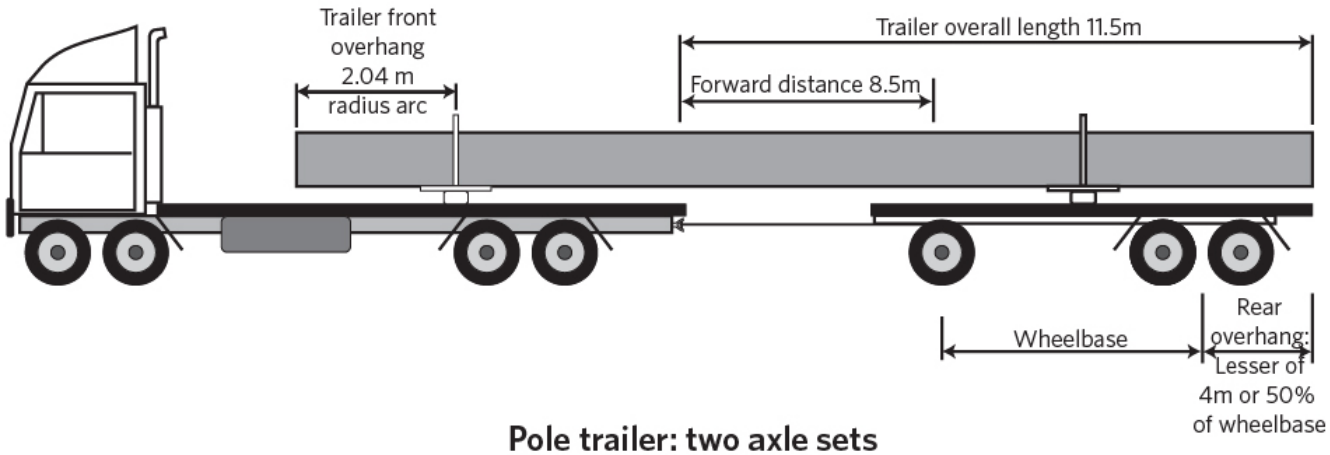


Simple trailer

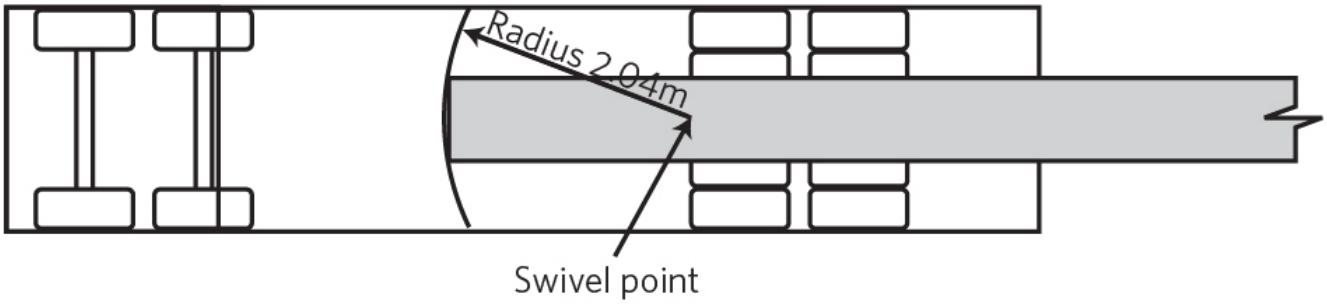




Pole trailer: one axle set



Pole trailer: two axle sets



Pole trailer: front overhang

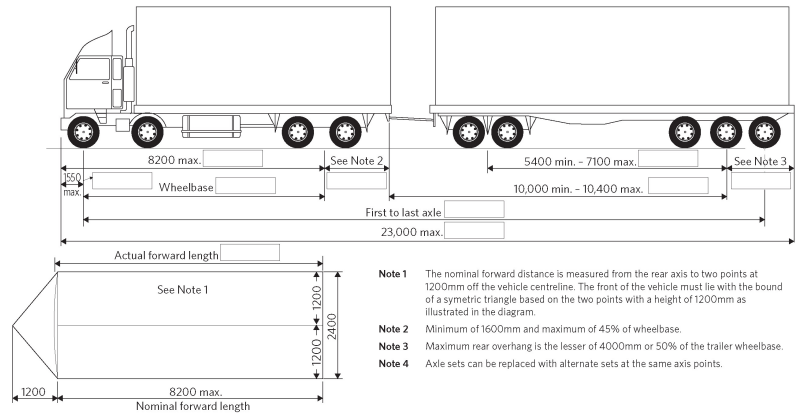
See also to Table 2-2-4.

Figure 2-2-10. 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.

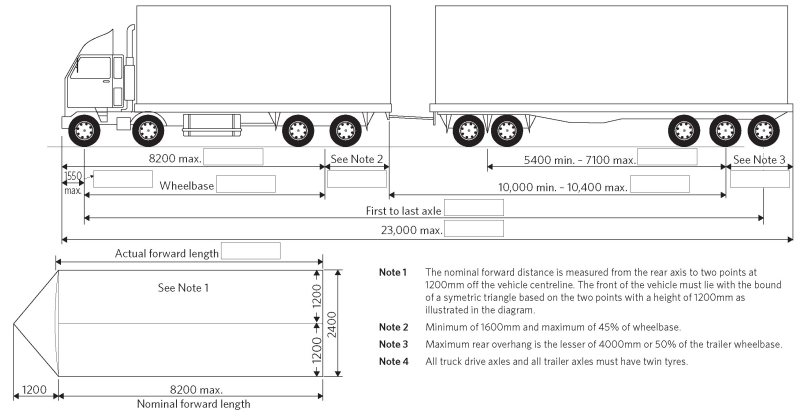
WAKA KOTAHI NZ TRANSPORT AGENCY

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

	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

Summary of legislation

Applicable legislation

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

Mandatory equipment

1. A trailer 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 trailer with a GVM of 3501kg or more may exceed the dimensions in Table 2-2-3 only if it is:

a) a specialist overdimension trailer (Note 1), or

b) a trailer designed primarily to transport overdimension loads, or

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

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

2-3 Glazing

Reasons for rejection

Glazing condition

1. Glazing is damaged (Note 1), has deteriorated or is modified (Note 2) so that its strength or mechanical performance is adversely affected.

2. Glazing is not securely affixed to the vehicle.

3. Glazing has a mirrored effect sufficient to dazzle other road users.

Note 2 Definitions

Modify means to change a vehicle from its original state by altering, substituting, adding or removing any structure, 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 new structures, systems, components or equipment.

Summary of legislation

Applicable legislation

- **Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999**.

Permitted glazing

1. Trailers may be fitted with any type of glazing, including plastic glazing.

Glazing condition

2. Glazing must be mechanically sound, strong and securely affixed to the vehicle.

3. Glazing must not have a mirrored effect sufficient to dazzle other road users.

2-4 Heavy trailer 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.

Condition and performance

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

3. An outrigger locking device does not lock the outrigger in its locked position.

Note 1

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

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.

Condition

2. 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) 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 and performance

2. Refer to **general trailer pages**.

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

    a) deformation from original shape that has affected the vehicle's structural integrity, 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, or

        ii. a high-strength steel component has been heated, or

        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, or

        iii. brake system, or

        iv. mandatory lighting equipment, or

        v. towing connections, or

        vi. 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 not readily verifiable by visual inspection.

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 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 5) (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

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

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

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

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.

Note 2

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

Note 3

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

- where there are 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

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).

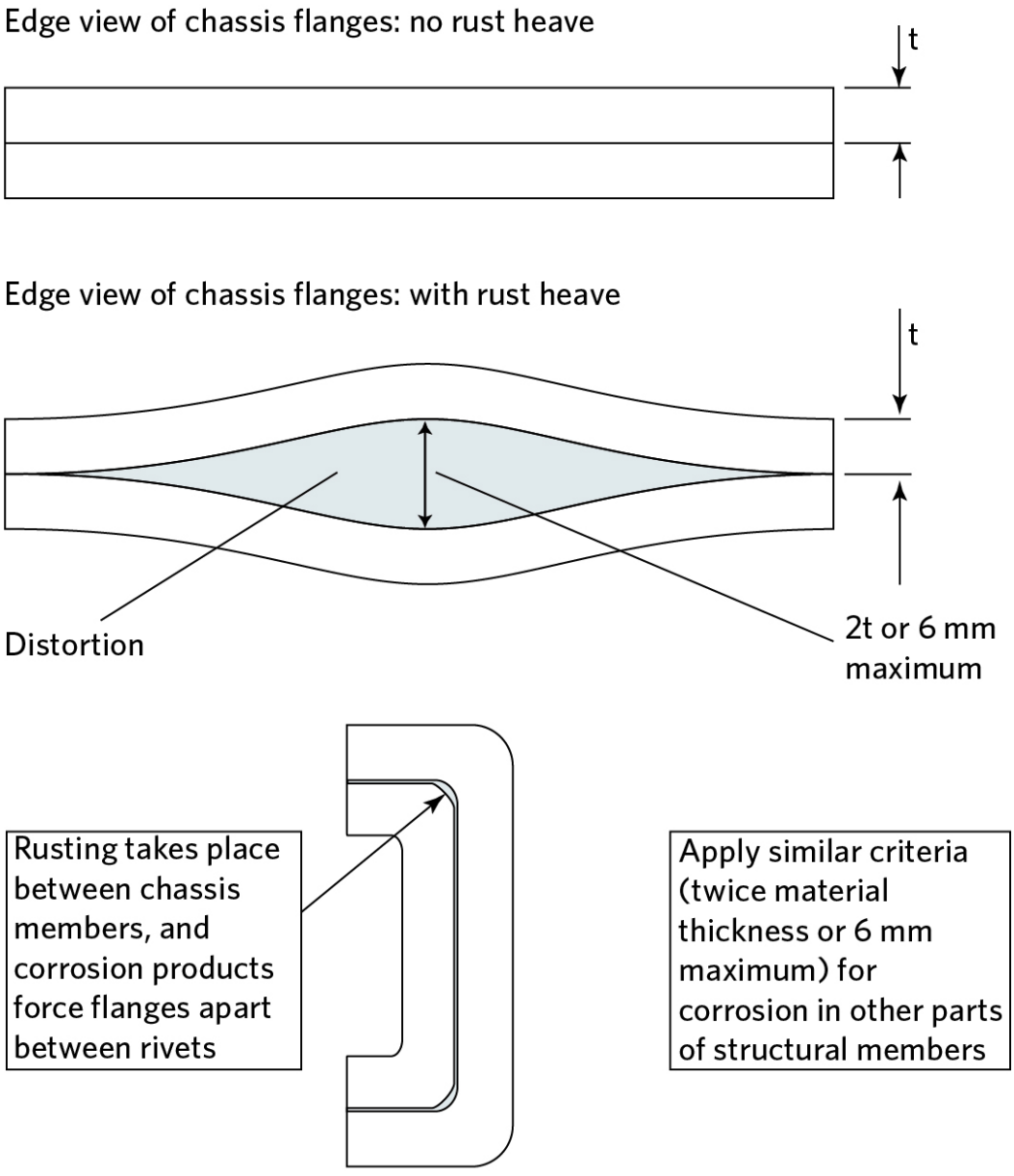
Table 3-1-1. Requirements for HVS certification

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 6) repairs or modifications to a chassis, including a chassis cross member which is: a) the first or last cross member of the chassis, or b) a cross member that is fitted within 500mm of an engine mount, transmission mount or suspension support, or c) a cross member to which a driveshaft centre bearing is fitted, or d) a cross member that supports any of the following: i. ball-race turntable, or ii. fifth wheel, or iii. kingpin, or iv. bolster attachment, or v. hoist, hydraulic cylinder of a tipping body or any other device that may place a concentrated load on the chassis. 3. Repairs to a coaming rail that supports a load anchorage point or J-hook, or that secures a load-rated curtain. 4. 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.	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 or J-hook or 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).

Note 6

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 vehicle's safety performance is unaffected.

Figure 3-1-3. Rust heave limits

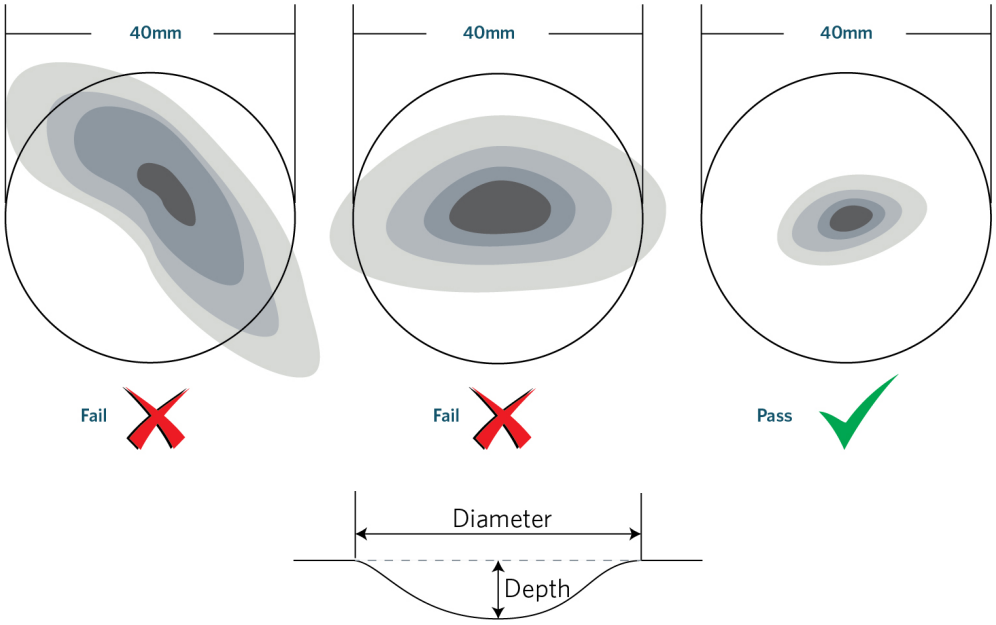


Note: where the flanges are of different thickness, ***t*** shall be taken as the minimum of these.

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. 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 they suspect 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) an effective locking device to prevent inadvertent extension or separation, and

    b) endstops at the end of the slideway to prevent the 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 trailer, and

    b) the body of a trailer of monocoque construction, and

    c) any other load-bearing structure.

4. The locking of a sliding chassis locking device must be readily verifiable by visual inspection.

5. A sliding chassis locking device must be effective.

6. If a sliding chassis 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.

7. 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

8. 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 3-1-1), 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**)

3-2 Stability

Reasons for rejection

Mandatory requirement

1. A class TD trailer, other than one listed in Table 3-2-1, that is presented with a body capable of achieving a load height exceeding 2.8m from the ground does not have proof of Static Roll Threshold (SRT) certification at 0.35g.

Modification

2. A modification or repair since 1 July 2000 affects the vehicle stability and:

a) is not excluded from the requirements for HVS certification (Table 3-2-2), 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 a Level 1 or Level 2 SRT certifier has been presented.

Note 1 Definitions

High-productivity motor vehicle (HPMV) means a heavy motor vehicle or heavy combination vehicle that carries a divisible load and 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, section 2-2 (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 NZTA, a regional council or an authorized delegate).

Note 2

For the avoidance of doubt, a high-productivity motor vehicle must comply with minimum SRT requirements.

Note 3

When measuring the height of a tipper body any lifting ram extending above the rim of the tipper body should not be included in the calculation of the height of the body.

Table 3-2-1. Class TD trailers that are not required to comply with SRT

- An overdimension trailer (other than a high-productivity motor vehicle) (Note 1) (Note 2)
- A trailer operating under an overweight permit (other than a high-productivity motor vehicle) (Note 1) (Note 2)
- A trailer first registered before 1 January 1940
- A vehicle recovery service vehicle that is designed principally to transport a heavy motor vehicle.

Table 3-2-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
A modification affects the trailer's SRT compliance (eg deck, body, suspension, different sized wheels or tyres).	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 2016.

Mandatory requirement

1. A class TD trailer, other than one listed in Table 3-2-1, with a body or load height exceeding 2.8m from the ground must comply with a Static Roll Threshold (SRT) of at least 0.35g.

Specialist certification

2. Compliance with SRT must be certified by a person approved as a Level 1 or Level 2 SRT certifier.

Modification and repair

3. A modification or repair, on or after 1 April 2002, that affects the stability of a heavy trailer must be inspected and certified by an HVS certifier, unless the vehicle:

a) is excluded from the requirements for HVS certification (Table 3-2-2), 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**).

4 Lighting

4-1 Headlamps

Reasons for rejection

Prohibited equipment

1. A trailer is fitted with headlamps (Note 1).

Note 1

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).

Summary of legislation

Applicable legislation

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

Prohibited equipment

1. A trailer must not be fitted with a headlamp (Note 1).

4-2 Front and rear fog lamps

Reasons for rejection

Permitted equipment

1. A trailer is fitted with:

a) a front fog lamp (Note 1), or

b) more than two rear fog lamps.

2. A pair of fog lamps is not fitted:

a) symmetrically, or

b) as far towards each side of the trailer as practicable.

Condition (Note 2)

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

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

Performance (Note 2)

5. 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) not steady, or

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

g) altered, eg due to damage or modification.

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

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

Note 1

Fog lamp means a 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.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. One or two rear fog lamps (Note 1).

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

Prohibited equipment

3. A trailer must not be fitted with front fog lamps.

Condition

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

Performance

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

6. A rear fog lamp must emit a steady light.

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

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

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

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

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

Page amended **28 April 2013** (see **amendment details**).

4-3 Cornering lamps

Reasons for rejection

Prohibited equipment

1. A trailer is fitted with cornering lamps (Note 1).

Note 1

Cornering lamp means a lamp that is 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.

Summary of legislation

Applicable legislation

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

Prohibited equipment

1. A trailer must not be fitted with cornering lamps (Note 1).

4-5 Direction indicator lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general trailer pages**.

2. A heavy trailer 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 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 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.

4. A heavy trailer is fitted with top-mounted lamps at the front of the trailer.

Condition

5. Refer to **general trailer pages**.

Performance

6. Refer to **general trailer pages**.

Note 1

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 2

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.

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 Lighting 2004.

Permitted equipment

1. A heavy trailer may be fitted with an additional pair of 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).

2. 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

3. Refer to general trailer pages.

Performance

4. Refer to general trailer pages.

Modifications

5. Refer to general trailer pages.

4-6 Forward-facing position lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to general trailer pages.

2. A heavy trailer 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 trailer pages.

Performance

4. Refer to general trailer 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 1.5m

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

c) 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.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. A heavy trailer 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 trailer pages.

Performance

3. Refer to general trailer pages.

Modifications

4. Refer to general trailer pages.

4-7 Rearward-facing position lamps

Reasons for rejection

Mandatory and permitted equipment

1. Refer to general trailer pages.

2. A heavy trailer 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 trailer pages**.

Performance

5. Refer to **general trailer pages**.

Summary of legislation

Applicable legislation

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

Permitted equipment

1. A heavy trailer 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 trailer pages**.

Performance

4. Refer to **general trailer pages**.

Modifications

5. Refer to **general trailer pages**.

4-8 Side-marker lamps

Reasons for rejection

Mandatory and permitted equipment

1. A class TC or TD trailer with two or more axles, or an articulated vehicle that exceeds 9.2m in length, is not fitted on each side with a side-marker lamp at a point approximately one-third of the way along the vehicle, measured from the rear (Note 2).

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

Condition

3. A lamp is insecure or, if a mandatory lamp, contains moisture in the form of large droplets, runs or puddles.

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

6. When switched on, a mandatory lamp does not operate.

7. 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.

8. A side-marker lamp emits a light that is not visible within (Figure 4-8-1):

   a) 60° above and below the horizontal, or

   b) 60° forward and rearward.

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

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.

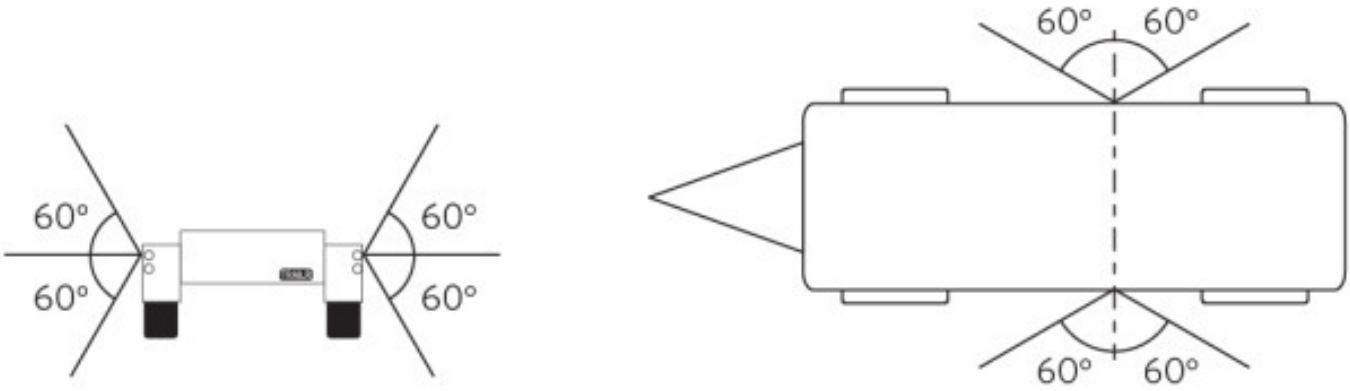
Note 2

The position of a mandatory side-marker lamp need only be approximate as long as it indicates the vehicle's presence and approximate dimensions when viewed from the side.

Note 3

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

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory and permitted equipment

1. A class TC or TD trailer fitted with two or more axles, or an articulated heavy vehicle that exceeds 9.2m in length:

    a) must be fitted on each side with one side-marker lamp at a point approximately one-third of the way along the vehicle measured from the rear, and

    b) may be fitted with additional 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:

a) from a distance of 100m in daylight and 200m during the hours of darkness, and

b) within an angle of 60° above and below a horizontal plane passing through the lamp, and within an angle of 60° forward and rearward of a vertical plane that is perpendicular to the longitudinal centreline of the vehicle and passing through the lamp.

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

Permitted and prohibited equipment

1. A trailer listed in Table 4-9-1 is fitted with lamps that exceed the numbers permitted in Table 4-9-1.

2. A trailer 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, ie lamps are fitted other than around the outline of the vehicle (Note 2).

Condition

4. A lamp is insecure.

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

Note 1

For trailers 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

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

c) 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 lamps).

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 removed from the vehicle. A rearward-facing end-outline marker 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

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
			Maximum permitted lamps[1]	Maximum permitted lamps[1]
Vehicle manufactured before 1/4/2011[2]	A	• A trailer with a GVM exceeding 11,300kg • A trailer in a vehicle combination led by a heavy vehicle, where the combination's length exceeds 9.2m	12 (No Limit if first registered before 27/2/2005)	6
	B	A trailer with an overall width of 1.8m or more (other than a trailer in row A)	6	4
Vehicle manufactured from 1/4/2011	C	A trailer with an overall width exceeding 2.1m and with a GVM or GCM exceeding 12,000kg	12	6
	D	A trailer with an overall width exceeding 2.1m (other than a trailer in row C)	6	4

[1] Maximum permitted lamps are the maximum number of lamps allowed to be fitted.

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

Summary of legislation

Applicable legislation

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

Permitted and prohibited equipment

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

2. A trailer 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 be in sound condition.

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

Modifications

10. 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 trailer pages**.

2. A heavy trailer 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 trailer pages**.

Performance

5. Refer to **general trailer pages**.

Note 1

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.

Summary of legislation

Applicable legislation

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

Permitted equipment

1. A heavy trailer 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 1.5 mor, 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 trailer pages**.

Performance

4. Refer to **general trailer pages**.

Modifications

5. Refer to **general trailer pages**.

4-11 High-mounted stop lamps

Reasons for rejection

Permitted equipment

1. A trailer is fitted with more than two high-mounted stop lamps (Note 1).

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

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 is damaged or has deteriorated so that light output is reduced.

Performance

6. When the service brake is activated, a lamp does not remain steadily illuminated.

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

8. A lamp emits a light that:

    a) is not substantially red, or

    b) is not diffuse, or

    c) is not projected to the rear, or

    d) has insufficient light output to produce a light that is visible from 100m in normal daylight, eg due to modification, deterioration, dirt or an incorrect light source.

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

Note 1

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

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

Note 2

A high-mounted 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.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Permitted equipment

1. A trailer may be fitted with one or two high-mounted stop lamps (Note 1).

2. A lamp must be fitted in a central high-mounted position at the rear of the trailer.

Condition

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

Performance

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

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

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

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

4-12 Rear-registration-plate illumination lamps

Reasons for rejection

Mandatory equipment

1. A trailer is not fitted with at least one rear-registration-plate illumination lamp (Note 1).

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

Performance

5. The lamp emits a light that is not:

    a) substantially white, or

    b) steady, or

c) diffuse.

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

7. The light source of a lamp is visible from the rear of the trailer.

Note 1

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

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory equipment

1. At least one rear-registration-plate illumination lamp (Note 1).

Performance

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

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

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

5. The light source of the lamp must not be visible from the rear of the trailer.

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

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

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

4-13 Rear reflectors

Reasons for rejection

Mandatory equipment

1. Refer to general trailer pages.

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

3. A trailer equipped with a jinker pole that extends behind its rear lamps is not, in addition to the normal rear reflectors, fitted with one red rear reflector at the rear extremity of the pole.

Condition

4. Refer to general trailer pages.

Performance

5. Refer to **general trailer pages**.

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

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

Jinker pole means a telescoping or sliding pole that forms the drawbar to steer a pole trailer.

Pole trailer means a trailer that is attached to the towing vehicle by a telescoping or sliding pole and is designed to support a common load of logs, or a similar load, spanning between the trailer and the towing vehicle.

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		

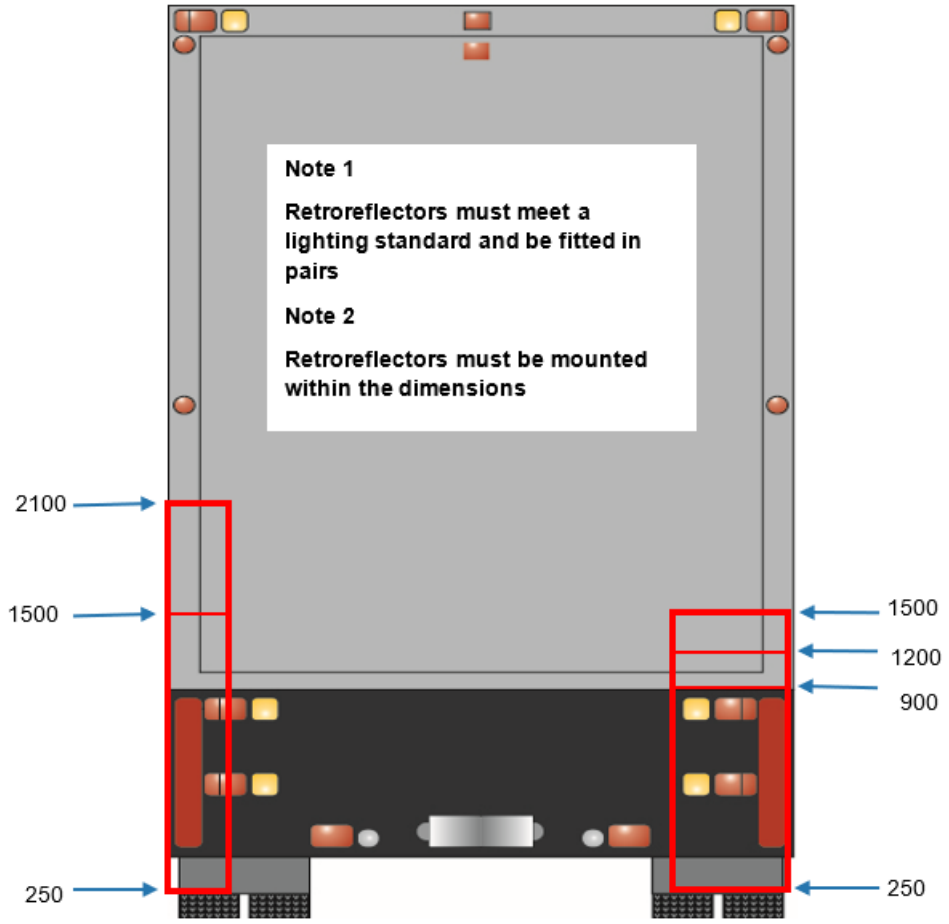
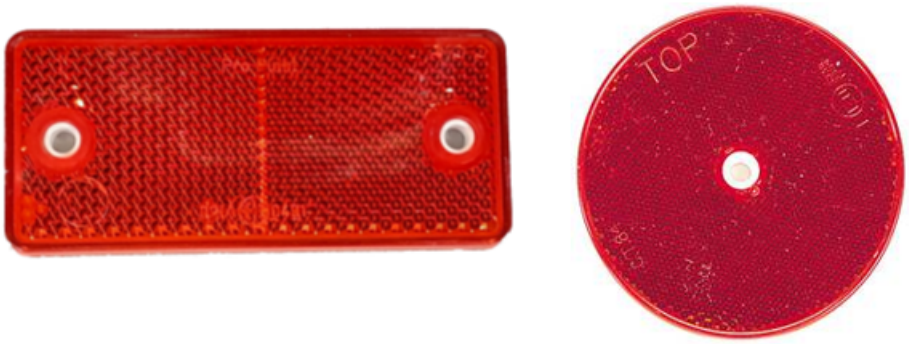


Figure 4-13-2. Reflector vs reflective material

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



Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Mandatory equipment

1. Refer to general trailer pages.

2. A rearward-facing reflector fitted to a class TC or TD vehicle must have an area of at least 30cm^2 and be fitted within 150mm of the right and left extremities of the vehicle.

3. A trailer equipped with a jinker pole that extends behind its rear lamps must, in addition to the normal rear reflectors, be fitted with one red rear reflector at the rear extremity of the pole.

Condition

4. Refer to general trailer pages.

Performance

5. Refer to general trailer pages.

Page amended **11 September 2025** (see amendment details).

4-4 Daytime running lamps

Reasons for rejection

Prohibited equipment

1. A trailer is fitted with daytime running lamps (Note 1).

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.

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Lighting 2004.

Prohibited equipment

1. A trailer must not be fitted with daytime running lamps (Note 1).

4-14 Reversing lamps

Reasons for rejection

Permitted equipment

1. A trailer is fitted with more than two reversing lamps at the rear of the trailer (Note 1).

2. A pair of reversing lamps is not:

    a) symmetrically mounted, or

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

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 is damaged or has deteriorated so that light output is reduced.

Performance

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, 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

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.

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 trailer (Note 1).

2. A pair of reversing lamps must be symmetrically mounted as far towards each side of the trailer 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.

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.

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.

Performance

3. 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.

4. 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

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

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

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.

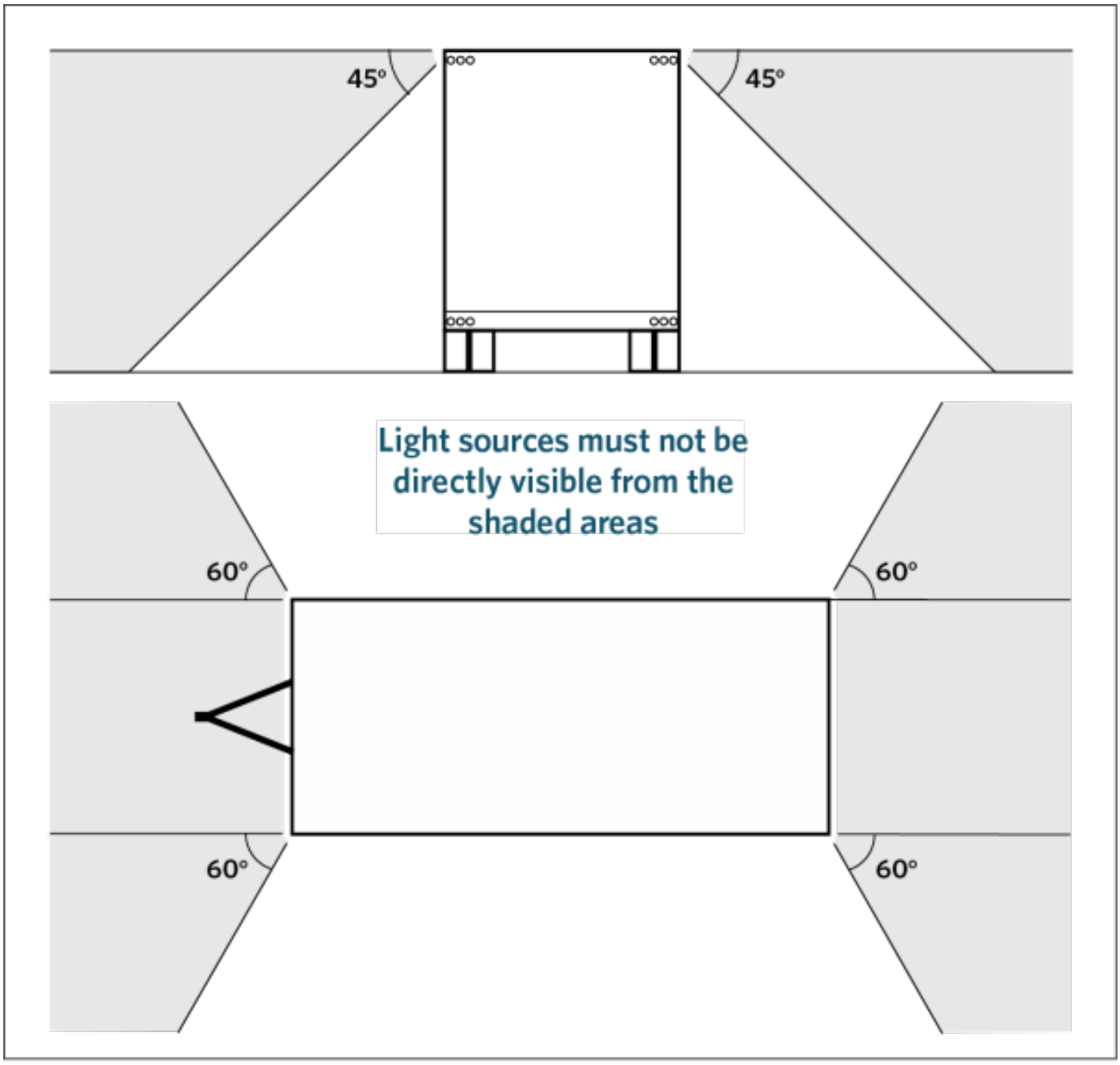
Note 3

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

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

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

4. 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.

5. A side-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

5 Brakes

5-1 Service brake, parking brake, emergency brake and breakaway brake

Reasons for rejection

Mandatory requirements

Service brake

1. A heavy trailer does not have a service brake.

2. A heavy trailer 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.

Parking brake

3. A heavy trailer, other than a semi-trailer first registered **before 1 November 1990**, does not have a parking brake.

4. A parking brake of a vehicle first registered in New Zealand **on or after 1 November 1990** acts on less than 40% of the wheels.

5. A required parking brake of a heavy trailer cannot be applied by the driver from the normal driving position using one control only (Note 2).

Emergency brake

6. A heavy trailer, other than a semi-trailer first registered **before 1 November 1990**, does not have an emergency brake.

7. A required emergency brake does not act on at least one-third of the wheels.

8. A required emergency brake fails to automatically apply when the brake coupling is separated.

Hoses and other flexible tubing

11. 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 5-1-2 (Note 3).

Compressed air brake systems

12. The air brake of a 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.

13. A required two-line system connecting a heavy vehicle to a heavy trailer, other than a semi-trailer, is not attached to the drawbar by a means that would prevent damage to the hoses or flexible tubing.

14. 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.

- Operation of drain valves must not require the use of tools.

Electric brakes

15. A class TC trailer with electric brakes has not been certified by a heavy vehicle specialist certifier with the brakes category HVEK.

Permitted equipment

15. 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.

16. An air-operated device is connected to the air brake system without a protection valve.

17. A trailer–brake hand control applies brakes other than the service brakes of the trailer(s).

Prohibited equipment

18. A heavy trailer, other than a heavy haulage trailer or military trailer, 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.

Condition

19. Refer to **general trailer pages**.

20. A brake is not capable of being easily adjusted.

21. An adjustment indicator rod is:

a) missing, or

b) seized.

22. A brake component has excessive travel or stroke (eg as shown by an adjustment indicator rod or similar device).

23. 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.

24. A brake valve or reservoir:

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).

25. 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.

26. 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, or

iv. the front if the vehicle is a semi-trailer.

27. 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.

28. 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) is fouled by moving parts.

29. 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.

30. A full-trailer that uses a coiled nylon brake hose (suzie coil):

a) does not have a cable of sufficient strength to disconnect/disengage the brake supply and control hoses from the towing vehicle, or

b) the cable length will allow separation of the trailer towing coupling by more than 400mm before it disconnects/disengages the brake hoses to activate the emergency braking, or

c) the suzie coiled hose is not suitably attached to the trailer drawbar so that it cannot be damaged by dragging on the road surface or pinched by any vehicle components.

31. An ABS plug or socket (see Figure 5-1-2) (Note 5)

a) is missing, or

b) has damaged, displaced or corroded pins, or

c) is otherwise broken or defective.

Performance

Service brake (Note 4)

32. The service brake is not able to be applied in a controlled and progressive manner.

33. When the service brake is applied and without assistance from the engine or other retarders:

a) the vehicle does not stop within 7m 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 9m 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 30km/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.

34. When the service brake is applied:

a) the vehicle vibrates under braking to the extent that control of the vehicle is adversely affected, or

b) the brake fails to release immediately after the towing vehicle's brakes are released, or

c) the directional control is affected (eg swerving to one side, or the brakes on one side apply more slowly than on the other side), or

d) the brake balance, at anytime above the threshold value, varies by more than 30% between wheels on a common axle.

35. The ABS or brake system warning lamp or self-check system, if fitted, indicates a defect in the ABS or brake system (this does not apply to brake pad wear warning systems).

Parking brake (Note 4)

36. When the parking brake is applied:

a) the vehicle does not stop within 18m from a speed of 30km/h (average brake efficiency of 20%), or

b) it does not hold all the wheels on a common axle stationary against attempts to drive the vehicle away.

Compressed air brake systems

37. A required drain valve cannot be operated manually.

Note Operation of drain valves must not require the use of tools.

38. 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.

39. An air-operated spring parking brake that has been retrofitted to a vehicle to replace a wind-on parking brake hasn’t been certified by an HVSC with the brakes category HVEK.

Modification and certification

40. A vehicle in Table 5-1-3:

a) has not been certified as required by that table, or

b) has been modified so that recertification is required.

41. 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 5-1-4), and

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

42. A trailer in a dedicated combination does not have a brake certification plate listing both vehicles' VINs.

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 brakemeans 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

The requirement for a parking brake of a heavy trailer to be applied by the driver from the normal driving position using one control only does not apply to :

a) a class TC trailer which has the parking control fitted to the trailer (eg a mechanical wind-on parking brake) provided:

i) it is part of a dedicated combination, and

ii) it does not have an air brake or a brake that is operated with the assistance of compressed air, and

iii) it is fitted with a device that can be operated by the driver of the towing vehicle from the driver's normal driving position to keep the trailer stationary temporarily, and

iv) the parking control of the trailer is fitted in a readily accessible position, and

v) the operating control of the device in (iii) above fitted to the towing vehicle has a label permanently attached displaying the words 'NOT FOR PARKING' , or

b) a class TC or TD trailer that has a parking brake that is operated from the powered vehicle if the trailer also has a device that acts as a parking brake by applying the service brake indefinitely and that will apply the parking brake automatically if that service brake application fails. A trailer fitted with a WABCO Park Release Emergency Valve (PREV) or a trailer with EBS fitted with a Knorr-Bremse TEBS G2 electronic braking system would meet this requirement.

Note 3

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 4

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 5

Check wheel sensors and pulse rings (if visible) and for hidden plugs or trapped and damaged wiring,

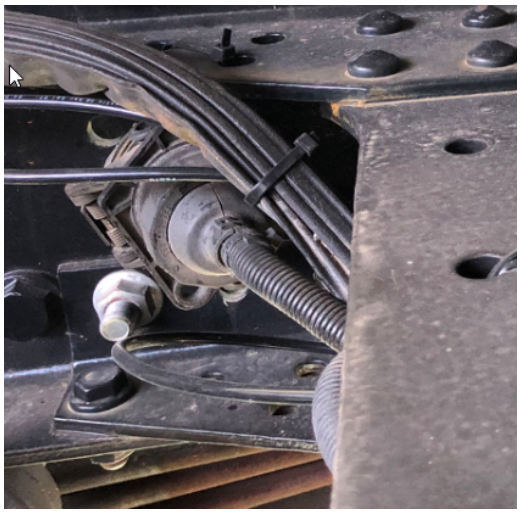


Table 5-1-2. Approved vehicle standards for brake hoses and flexible tubing[1]

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

1Hoses and tubing may comply with a more recent version of these standards if the safety performance of the vehicle is not adversely affected.

Table 5-1-3. Heavy vehicle brakes: certification requirements for class TC and TD vehicles

Conditions applying	Requirements
Operated in a combination with a GM**1**>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 • IHVBS(2) Heavy vehicle braking specification of 6 December 1998 • HVBC(1) Heavy Vehicle Brake Code, First Edition 1991 • HVBC(2) Heavy vehicle brake code, second edition
Operated in a combination with a GM**1**>39 ?44 t, and • first registered or modified2 in NZ 1 March 2007–30 June 2008	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
Modified**2**in NZ 1 March 2007–30 June 2008	Heavy vehicle specialist certification
First registered or modified2 on or after 1 July 2008	Applicable certification: • HVBNZ New Zealand heavy vehicle brake specification

1 GM means gross mass (see definitions in the Introduction)

2 Modified in this case means to change the vehicle or its braking system from its original state by altering, substituting, adding or removing any structure, system, component or equipment that may affect the brakes and includes, but is not limited to:

- altering a vehicle's wheelbase
- fitting a towing connection to tow another heavy vehicle
- adding or removing an axle (eg 3-axle to 4-axle full trailer or tri-axle to quad-axle semi-trailer)
- changing the vehicles duty (eg simple trailer to full trailer or semi-trailer, or any other duty)
- changing the GVM.

Table 5-1-4. Modifications that do not require HVS certification

Fitting of or modification to:	HVS certification is not required provided that:
Air fittings (e.g. a connector, T-piece or an air reservoir drain valve)	• the air fitting: – does not affect the performance of the braking system, and – is suitable for the intended purpose, and – is unmodified (ie not welded, drilled or tapped), and – installed correctly to unmodified components.
Any modifications for the purposes of law enforcement or the provision of emergency services	

Brake hoses and flexible tubing information. Refer Table 5-1-2

SAE

APPROVED STANDARDS:

AIR BRAKE - SAE 40 R2 (A to E) Note: this standard was replaced by SAE J 1402 in 1985.
SAE 70 R3H
SAE J844
SAE J1402

VACUUM - SAE 40 R3 L (light duty)
SAE 40 R3 H (heavy duty)
SAE R3 M (heavy duty, oil resistant)
SAE J1403

PIPE MARKING:

Nominal size (inches or mm)
Type of tube construction (SAE J844 tubing only)
Standard
Tubing type
Tubing manufacturer's I.D.

NOTES:

1. SAE J844 tubing must not be used;
   a) for flexible connections, except as specifically approved
   b) for compressor discharge pipes,
   c) above 93°C, or
   d) in any any area subject to attack by acid.

2. SAE J844 Type A tubing - has a single layer of nylon.
   SAE J844 Type B tubing - has two layers of nylon with an interlayer of braid.

SMMT (Society of Motor Manufacturer' s and Traders) British Standards

APPROVED STANDARDS:

AIR BRAKE - BS AU 110

VACUUM - BS VSAU 109

PIPE MARKING:

Standard
Tubing manufacturer' s I.D.
Type of hose

NOTES:

Marking colour	Hose type	
Red	1 & 2	For use between compressor and reservoir. Max temperature 135°C.
White	3 & 4	Synthetic rubber hose for use in other parts of brake system.
Blue	5 & 6	Natural rubber hose for use in other parts of brake system.

Japanese Industrial Standards

APPROVED STANDARD:

AIR BRAKE - JIS D2606

VACUUM -

PIPE MARKING:

Year and month of manufacture
Tubing manufacturer' s name (may be abbreviated)
Type of hose (may be abbreviated e.g. AIRB)

Nylon 11

APPROVED MAKES:

AIR BRAKE - Anson Plastics
Nylex
TWL

PIPE MARKING:

Nominal size (inches or mm)
Working pressure
Tubing type
Tubing manufacturer' s I.D.

NOTES:

1. Nylon 11 tubing may only be used in fail-safe applications such that:
   a) its failure does not prevent the application of the brakes by the driver, or
   b) its failure will cause the brakes to apply.

DOT (Department of Transportation, USA)

APPROVED STANDARDS:

AIR BRAKE - FVMSS 106

PIPE MARKING:

Tubing type. ' A' indicates air hose.
Nominal size
Month, day and year of manufacturer.
Tubing manufacturer' s I.D.
' DOT' mark.

NOTES:

1. All lettering must be in capitals.

2. The nominal size may be shown in fractions of an inch or millimetres:
   - if the size is shown in millimetres then the abreviation ' mm' must follow.
   - if the nominal outside diameter is shown it must be followed by ' OD' .

Figure 5-1-2. ABS visual inspection guide

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy-vehicle Brakes 2006.

Mandatory equipment

Service brake

1. A heavy trailer must have a service brake that acts on each wheel, except for a vehicle first registered in New Zealand **before 1 November 1990** which may have a service brake that is designed to act on those wheels as determined by the vehicle manufacturer.

Parking brake

2. A heavy trailer, other than a semi-trailer first registered **before 1 November 1990**, must have a parking brake.

3. A parking brake of a heavy trailer first registered in New Zealand **on or after 1 November 1990** must act on at least 40% of the wheels.

4. The parking brake of a heavy trailer must be able to be applied by the driver from the normal driving position using one control only, except for:

a) a class TC trailer which may have the parking control fitted to the vehicle if:

i) the vehicle is part of a dedicated combination and does not have an air brake or a brake that is operated with the assistance of compressed air, and

ii) the vehicle is fitted with a device that can be operated by the driver of the towing vehicle from the driver's normal driving position to keep the trailer stationary temporarily, and

iii) the parking control of the trailer is fitted in a readily accessible position, and

iv) the operating control of the device in (ii) fitted to the towing vehicle has a label permanently attached displaying the words 'NOT FOR PARKING' , or

b) a class TC or TD vehicle that has a parking brake that is operated from the vehicle if the vehicle also has a device that acts as a parking brake by applying the service brake indefinitely and that will apply the parking brake automatically if that service brake application fails.

Emergency brake

5. A heavy trailer, other than a semi-trailer first registered **before 1 November 1990**, must have an emergency brake.

6. The emergency brake of a heavy trailer first registered in New Zealand **on or after 1 November 1990** must act on at least one-third of the wheels.

7. The emergency brake may be combined with the parking brake or the service brake.

8. The emergency brake of a heavy trailer must operate immediately and automatically to stop and hold the trailer stationary if it becomes disconnected from the towing vehicle.

Hoses and other flexible tubing

9. A hose or other flexible tubing forming part of the compressed air or vacuum lines of a heavy trailer must comply with one or more of the approved vehicle standards in Table 5-1-2.

Compressed air brake systems

10. A heavy trailer that is fitted with an air brake or a brake that is operated with the use of compressed air must be equipped with air receivers or other means of storing compressed air.

11. The air brake of a vehicle first registered in New Zealand **on or after 1 March 2007** or modified on or after that date that can be operated in a combination vehicle must be capable of being connected to the air brake of the other vehicle by means of a two-line system.

12. A two-line system must consist of:

a) a supply line that supplies compressed air from the towing to the towed vehicle; and

b) a control line that supplies a control signal, in the form of modulated air pressure, to regulate the intensity of the brake application on the towed vehicle or vehicles.

13. For vehicles other than those towing semi-trailers, the hoses are to be treated as part of the trailer and must be securely attached to the drawbar.

14. A vehicle that is certified to the New Zealand Heavy-vehicle Brake Specification (HVBNZ) must:

a) have 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’, and

b) a drain valve fitted to an air-brake reservoir or to the reservoir of auxiliary equipment must be capable of being operated by a person standing beside the vehicle, without the need for a pit or hoist, and

c) an automatic drain valve must have a means of manual operation.

Permitted equipment

15. An air-operated device may be connected to the air brake only if:

a) the brake is protected so that the operation or failure of the device cannot lower the pressure in any service or parking brake reservoir(s) below the pressure specified by the vehicle manufacturer or brake manufacturer, or, if such information is not available, two-thirds of its maximum operational pressure specified by the vehicle

manufacturer or brake manufacturer, and

b) the supply to the device is drawn from a reservoir separate from the service brake or parking brake reservoir(s) supplying the brake, except that an air-operated device may be supplied with compressed air from the service brake or parking brake reservoir(s) if:

i. 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 8 mm, or

ii. the device is operated only when the vehicle is stationary, or

iii. the vehicle manufacturer allows it.

16. A heavy trailer may be fitted with brakes when they are not required.

Prohibited equipment

17. A heavy trailer, other than a heavy haulage trailer or military trailer, must not have a device fitted by which the driver would be able to adjust the service brake force distribution between the axles or between the vehicles that are used in combination.

Condition

18. A brake must be easily adjustable to compensate for wear or have a means of automatic adjustment and be in good condition.

19. The brake friction material of a brake must be:

a) secure, and

b) in good condition, and

c) free of defects that could noticeably and adversely affect the performance of the brake.

20. When a brake lining or a brake pad on an axle is replaced:

a) all the brake linings or brake pads on that axle must be replaced, and

b) all replacement brake linings and brake pads on that axle must be of the same make, type and grade.

21. A towing vehicle and a towed vehicle first registered in New Zealand **on or after 1 March 2007** or modified on or after that date must be fitted with a coupling device to connect the air brake to, and disconnect it from, that of the other vehicle, and that device must:

a) be robust, durable, and suitable for automotive application, and

b) prevent, either through the design of the coupling device or through its installation, the incorrect connection of the control and supply lines, and

c) not adversely affect the performance of the brake of either the towing or towed vehicle(s), and

d) have an effective break-away function.

22. The socket of a coupling device must be fitted as close as practicable to:

a) the centre-line of the vehicle, and

b) the rear of the towing vehicle, and

c) the towing connection by which the towed and towing vehicles are connected, and

d) the front of a semi-trailer.

Performance

23. A brake test that verifies that a vehicle complies with performance requirements must be carried out, and the test results evaluated, in accordance with methods and conditions approved by the NZTA by notice in the New Zealand gazette.

24. The service brake on a heavy vehicle must be able to be applied in a controlled and progressive manner.

25. Every brake which simultaneously applies the braking pressure on two wheels with a common axis must be adjusted or fitted so that the braking effect is approximately the same on both wheels when the brake is applied by the driver, except if the braking effect is modulated by a device to prevent the wheels locking or to improve stability (eg ABS or EBS).

26. When the brake on a heavy vehicle is applied:

a) the vehicle or its controls must not vibrate to the extent that control of the vehicle is adversely affected, and

b) the braking effort on each wheel must provide stable and efficient braking without adverse effect on the directional control of the vehicle, and

c) if the vehicle is equipped with an anti-lock braking system (ABS), the vehicle's rotationally-sensed wheels must not lock, when the speed of the vehicle is above the ABS-activation parameters set by the vehicle manufacturer.

27. A brake warning system, if fitted, must function correctly (this does not apply to a brake pad wear system).

Service brake

28. The service brake of a vehicle or vehicle combination that is operated on a hard, dry, level surface that is free of loose material, and without assistance from the compression of the engine or other retarders must operate in the following manner:

a) A service brake that is designed to act on four or more wheels must stop the vehicle within a distance of 7m from a speed of 30km/h (average brake efficiency of 50%).

b) A service brake that is designed to act on fewer than four wheels on a vehicle first registered in New Zealand before 1 February 1977 must stop the vehicle within a distance of 9m from a speed of 30km/h (average brake efficiency of 40%).

c) A service brake on a heavy vehicle manufactured before 31 December 1918 not capable of exceeding a speed of 30km/h must stop the vehicle within a distance of 20m from a speed of 30km/h (average brake efficiency 18%) or equivalent brake efficiency at its maximum speed.

Parking brake

29. A parking brake of a vehicle or vehicle combination that is operated on a hard, dry, level surface that is free of loose material, and without assistance from the compression of the engine or other retarders must operate in the following manner:

- stop the vehicle within 18m from a speed of 30km/h (average brake efficiency of 20%)

Compressed air brake systems

30. An air brake must have priority of supply of compressed air from the brake reservoir.

31. A vehicle that is certified to the New Zealand Heavy-vehicle Brake Specification (HVBNZ) and fitted with a spring-operated parking brake that is normally released by compressed air, the simultaneous application of the service brake and parking brake must not result in a compounded brake force on the axle or axles on which the parking brake acts. This may be referred to as an 'anti-compounding' requirement.

Modification and certification

32. The brakes fitted to a heavy trailer must comply with the certification requirements in Table 5-1-3.

33. A modification that may affect the brake system must be inspected and certified by a heavy vehicle specialist certifier of category HVEK or HMKD unless the vehicle:

a) is excepted from the requirement for heavy vehicle specialist certification (Table 5-1-4), and

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

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

5-2 Heavy trailer brake code

Reasons for rejection

Mandatory requirements

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 not valid, 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 trailers, section 5-1**.

Parking brake

4. A heavy trailer, other than a semi-trailer first registered in New Zealand **before 1 November 1990**, does not have a parking brake.

5. A parking brake on a heavy trailer first registered in New Zealand **on or after 1 November 1990** does not act on at least half of the wheels.

Emergency brake

6. A heavy trailer, other than a semi-trailer first registered in New Zealand **before 1 November 1990**, does not have an emergency brake.

7. A required emergency brake on a heavy trailer first registered in New Zealand **on or after 1 November 1990** does not act on at least half of the wheels.

Hoses or other flexible tubing

8. Refer to **Heavy trailers, section 5-1**.

Compressed air brake systems

9. Refer to **Heavy trailers, section 5-1**.

10. 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.

11. 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).

12. The control (service) and supply (emergency) 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.

13. 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.

- Operation of drain valves must not require the use of tools.

Permitted equipment

14. Refer to **Heavy trailers, section 5-1**.

Prohibited equipment

15. Refer to **Heavy trailers, section 5-1**.

Condition

17. Refer to **Heavy trailers, section 5-1**.

18. 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)

Performance

Service brake

19. Refer to **Heavy trailers, section 5-1**.

Parking brake

20. Refer to **Heavy trailers, section 5-1**.

21. The auxiliary park brake release device (yard valve) does not return automatically to its normal operating state when trailer air supply is restored.

Compressed air brake systems

22. Refer to **Heavy trailers, section 5-1**.

23. A drain valve is not able to be operated manually.

Note Operation of drain valves must not require the use of tools.

24. The individual brake forces of the service and spring parking brake are able to be compounded.

Modification and certification (Note 1)

25. Refer to **Heavy trailers, section 5-1**.

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 requirements

1. A vehicle that has been certified to the Heavy Vehicle Brake Code (first edition) prior to 31/8/1997 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 Refer to **Heavy trailers, section 5-1**.

Parking brake

4. A heavy trailer, other than a semi-trailer first registered in New Zealand **before 1 November 1990**, must have a parking brake.

5. A heavy trailer that was first registered in New Zealand **on or after 1 November 1990** must have a parking 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.

7. A parking brake must be able to be released by means of an auxiliary parking brake release control (the so called ‘yard valve’) after the trailer has been uncoupled.

Emergency brake

8. The heavy trailer, other than a semi-trailer first registered in New Zealand **before 1 November 1990**, must have an emergency brake.

9. A heavy trailer 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.

10. The emergency brake may be combined with the parking brake or the service brake.

11. The emergency brake must operate automatically to stop and hold the trailer stationary if it becomes disconnected from the towing vehicle during operation.

Hoses or other flexible tubing

12. Refer to **Heavy trailers, section 5-1**.

Compressed air brake systems

13. Refer to **Heavy trailers, section 5-1**.

14. 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 .

15. 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.

16. 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 150 mm 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 150 mm of the coupling or junction.

17. Each reservoir in an air brake system must be fitted with a condensate drain valve at the lowest point.

18. Where an automatic condensate valve is fitted, it must have a provision for manual operation.

Permitted equipment

19. Refer to **Heavy trailers, section 5-1**.

Prohibited equipment

20. Refer to **Heavy trailers, section 5-1**.

Condition

21. Refer to **Heavy trailers, section 5-1**.

22. Brake linings or brake pads must be replaced as axle sets.

Performance

23. Refer to **Heavy trailers, section 5-1**.

Service brake

24. Refer to **Heavy trailers, section 5-1**.

Parking brake

25. Refer to **Heavy trailers, section 5-1**.

26. The auxiliary park brake release device must be able to be restored automatically to its normal operating state when normal air supply is restored.

Compressed air brake systems

27. Refer to **Heavy trailers, section 5-1**.

28. The brake system must not compound their individual brake forces.

Modification and certification

29. Refer to **Heavy trailers, section 5-1**.

5-3 Interim heavy vehicle braking specification

Reasons for rejection

Mandatory requirements

Service brake

1. Refer to **Heavy trailers, section 5-1**.

2. The service brake does not act on each axle.

Parking brake

3. Refer to **Heavy trailers, section 5-1**.

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 does not act on at least half of the vehicle's axles.

Hoses and other flexible tubing

7. Refer to **Heavy trailers, section 5-1**.

Compressed air brake systems

8. Refer to **Heavy trailers, section 5-1**.

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 trailers, section 5-1**.

Prohibited equipment

13. Refer to **Heavy trailers, section 5-1**.

Condition

14. Refer to **Heavy trailers, section 5-1**.

Performance

Service brake

15. Refer to **Heavy trailers, section 5-1**.

Parking brake

16. Refer to **Heavy trailers, section 5-1**.

Compressed air brake systems

17. Refer to **Heavy trailers, section 5-1**.

Modification and certification (Note 1)

18. Refer to **Heavy trailers, section 5-1**.

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 trailers, section 5-1**.

2. The service brake must operate on each axle.

Parking brake

3. Refer to **Heavy trailers, section 5-1**.

4. The parking 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 trailers, section 5-1**.

Compressed air brake systems

8. Refer to **Heavy trailers, section 5-1**.

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 trailers, section 5-1**.

Prohibited equipment

13. Refer to **Heavy trailers, section 5-1**.

Condition

14. Refer to **Heavy trailers, section 5-1**.

Performance

Service brake

15. Refer to **Heavy trailers, section 5-1**.

Parking brake

16. Refer to **Heavy trailers, section 5-1**.

Emergency brake

17. Refer to **Heavy trailers, section 5-1**.

Compressed air brake systems

18. Refer to **Heavy trailers, section 5-1**.

Modification and certification

19. Refer to **Heavy trailers, section 5-1**.

6 Steering and suspension

6-1 Steering and suspension systems

Reasons for rejection

Condition

1. Refer to **general trailer pages**.

2. An axle-stop has been removed, or its condition is such that it may not be effective.

Performance

3. Refer to **general trailer pages**.

Modification and repair

4. A modification or repair affects the steering and suspension system and:

a) is not excluded from the requirements for HVS certification (Table 6-1-1), 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, that is 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

Axle-stop device means a device to control the movement of the axle in the event of suspension failures (eg a shacke stop, security strap [SAF] or catch strap [BPW]).

Note 2

Ballrace turntable means a device incorporating a low-friction ball bearing fitted between two substantial structural components of a vehicle to enable rotational motion between those components about a vertical axis.

Note 3

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 4

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 6-1-1. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. A steering or suspension system that is modified, including a replacement system that is not identical to the system fitted by the vehicle manufacturer. 2. The steering system of a vehicle to which a second steering axle is fitted to form a twin-steer axle set. 3. 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**.

Permitted equipment

1. A trailer may be fitted with with an axle-stop device.

2. A trailer may be fitted with a ballrace turntable.

Condition

3. Refer to **general trailer pages**.

4. The suspension system must have adequate strength for all conditions of loading and operation for which the vehicle was constructed.

5. A ballrace turntable must be securely fastened and within safe tolerance of its original condition.

6. An axle-stop device fitted to a vehicle must be within safe tolerance of its original condition.

Performance

6. Refer to **general trailer pages**.

7. The suspension system must have performance characteristics for all conditions of loading and operation for which the vehicle was constructed.

Modification and repair

8. 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 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 **1 April 2023** (see **amendment details**).

7 Tyres, wheels and hubs

7-1 Tyres and wheels

Reasons for rejection

Mandatory and permitted equipment

1. Refer to **general trailer 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 differ by no more than 2

b) the tyre load indices differ by no more than 6

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 trailer 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.

Performance

5. Refer to **general trailer pages**.

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 7-1-3), 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 HVEC or HMCD has been presented.

Note 1

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.

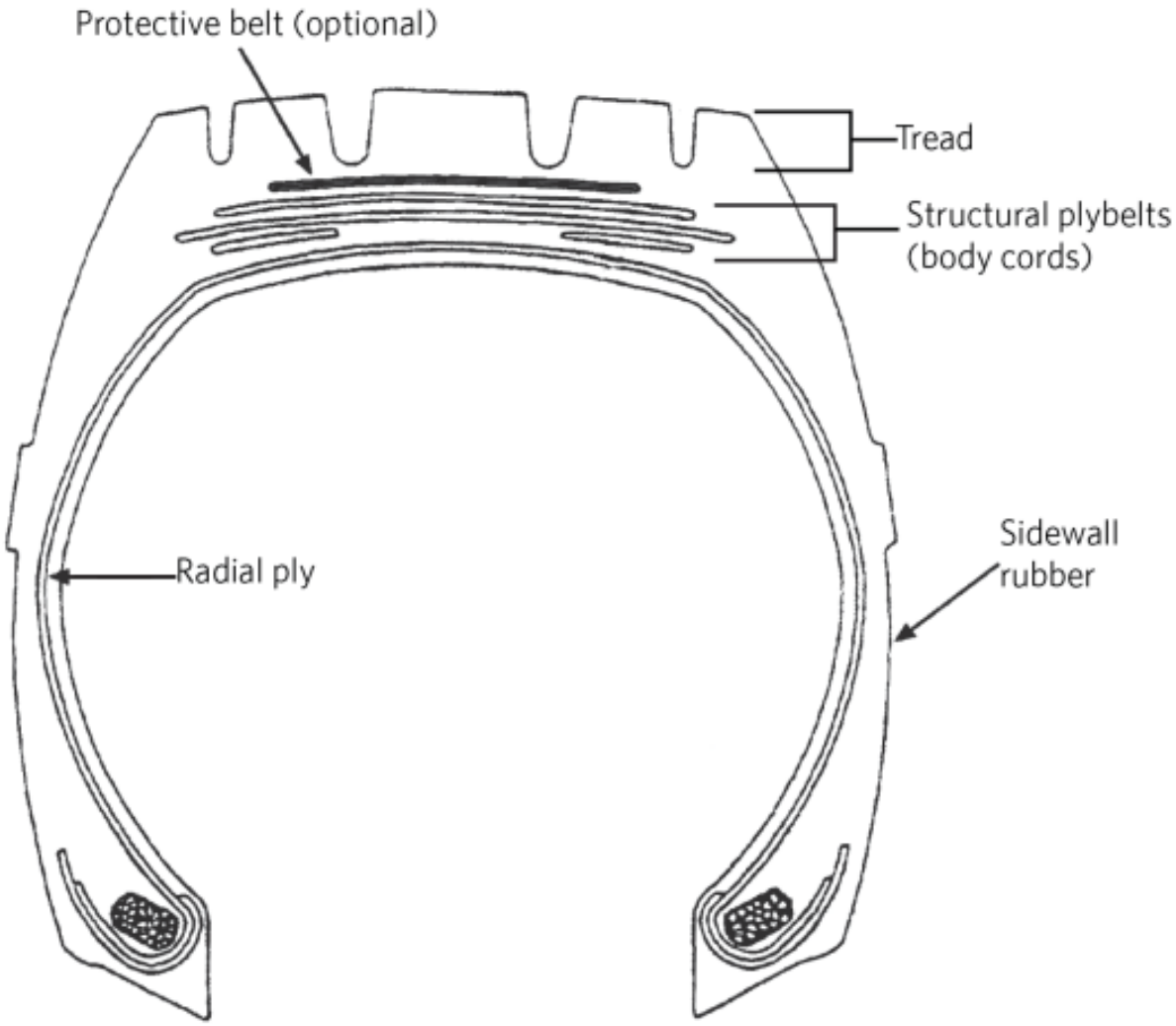
Note 2

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 7-1-3) 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 7-1-3. 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	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. 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. Fitting a single large tyre ('super-single') to a front axle when this is permitted by the vehicle manufacturer. 5. 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.) 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, reputable workshop).

Figure 7-1-3. Cross-sectional representation of a heavy vehicle radial-ply tyre



Summary of legislation

Applicable legislation

- Land Transport Rule: Tyres and Wheels 2001.

Mandatory and permitted equipment

1. Refer to general trailer 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 trailer pages**.

4. A heavy vehicle radial-ply tyre may have visible cords in the tyre-tread area provided the tyre is in safe condition. To assess whether such a tyre is in 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.

Performance

5. Refer to **general trailer pages**.

Modification and repair

6. 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 7-1-3), 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**).

7-2 Hubs and axles

Reasons for rejection

Mandatory requirement (Note 2)

1. A semi-trailer with a quad-axle set containing a steering axle does not have evidence of certification, ie:

a) the steering axle was fitted before the last CoF inspection and there is no LANDATA record of the certification, or

b) the steering axle 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 HVEC or HMCD .

Mandatory and permitted equipment (Note 2)

2. A heavy trailer, other than a semi-trailer that is not part of an A-train or B-train, is fitted with a steering axle in its rear-axle set.

3. On a semi-trailer that is not part of an A-train or B-train more than half the axles steer at any time.

4. A semi-trailer with a quad-axle set does not have one or two steering axles that are capable of turning in both directions, being:

a) the rearmost axle, or

b) the two rearmost axles, or

c) the foremost and the rearmost axles.

5. A heavy trailer is fitted with an axle set other than one permitted in Table 7-2-1.

6. An axle set, other than a twin-steer axle set, is not load sharing.

7. The manufacturer's plate for a tandem axle set 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.

8. A heavy trailer is presented as part of an A-train or B-train and is fitted with a retractable axle in its rear-axle set.

9. 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 the separation of the sliding parts if the primary locking device fails.

Condition

10. Refer to **general trailer pages**.

11. 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.

Performance

12. Refer to **general trailer pages**.

13. The locking of a sliding axle locking device is not readily verifiable by visual inspection.

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

15. A sliding axle locking device does not operate correctly.

16. A sliding axle endstop is:

a) missing, or

b) insecure, or

c) damaged.

Modification and repair

17. A modification or repair affects the hubs and axles and:

a) is not excluded from the requirements for HVS certification (Table 7-2-2), 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 HVEC or HMCD has been presented.

Note 1 Definitions

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.

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.

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.

Note 2

For specialist overdimension vehicles, none of the 'Mandatory requirement' or 'Mandatory permitted equipment' Reasons for rejection apply except number 6, ie axle sets must be load sharing.

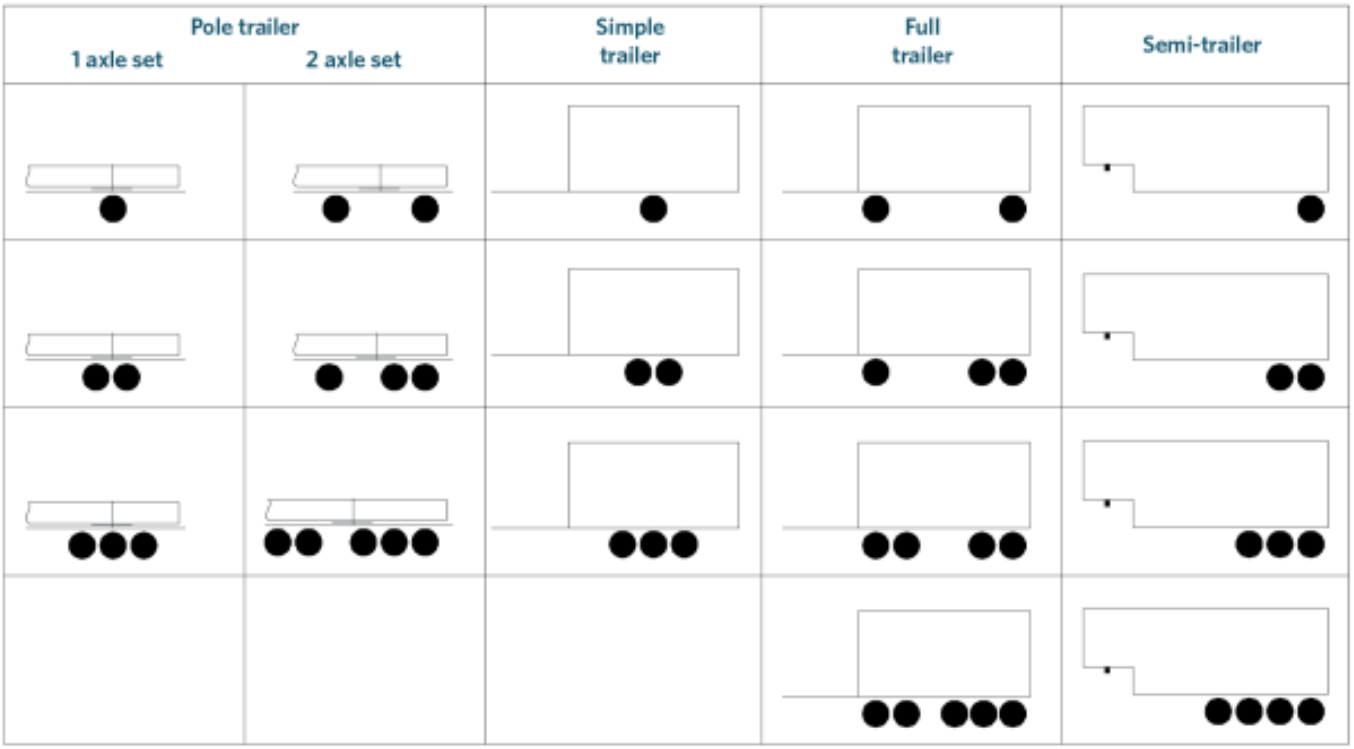
Table 7-2-1. Permitted axle sets for heavy trailers (see Figure 7-2-1)

Trailer type		Permitted axle sets	
Semi-trailer		Single axle; tandem axle set; tri-axle set; quad-axle set (not in A-train or B-train)	
Full trailer		Front Single axle; tandem axle set Must be connected to the drawbar steering system	Rear Single axle; tandem axle set; tri-axle set (only with front tandem axle set)
Simple trailer		Single axle; tandem axle set; tri-axle set	
Pole trailer	One axle set	Single axle; tandem axle set; tri-axle set	
	Two axle sets	Front Single axle; tandem axle set Must be connected to the drawbar steering system	Rear Single axle; tandem axle set; tri-axle set (only with front tandem axle set)

Table 7-2-2. 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. Steering axles in a quad-axle set of a semi-trailer (unless the vehicle is a specialist overdimension vehicle) 4. A retractable axle	1. Steering axles in a quad-axle set of a specialist overdimension vehicle 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 no evidence of this is required). 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 7-2-1. Permitted axle configurations



Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Dimensions and Mass 2002
- Land Transport Rule: Heavy Vehicles 2004.

Mandatory requirement (Note 2)

1. A semi-trailer with a quad-axle set containing a steering axle must be certified by a HVS certifier.

Mandatory and permitted equipment (Note 2)

2. A heavy trailer must not have any rear-steering axles, unless the trailer is a semi-trailer that is not part of an A-train or B-train, provided no more than half the axles within the rear-axle set steer at any time.

3. A semi-trailer with a quad-axle set must have one or two steering axles capable of turning on both directions, being:

    a) the rearmost axle, or

    b) the two rearmost axles, or

    c) the foremost and the rearmost axles.

4. A heavy trailer must be fitted with a permitted axle set as listed in Table 7-2-1.

5. A heavy trailer not part of an A-train or B-train may be fitted with a retractable axle in its rear-axle set.

6. A sliding axle set must have:

    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.

Condition

7. Refer to **general trailer pages**.

8. 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.

Performance

9. Refer to **general trailer pages**.

10. The locking of a sliding axle locking device must be readily verifiable by visual inspection.

11. 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.

Modification and repair

12. 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 7-2-2), 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**).

7-3 Mudguards

Reasons for rejection

Mandatory equipment

1. A mudguard (Note 1) over a road wheel is missing where it is reasonable and practicable to fit a mudguard, unless the trailer is:

a) in an unfinished condition legally used under the authority of trade plates, or

b) is towed by a vehicle that is not capable of exceeding a speed of 30 km/h.

2. A mudguard does not cover the full tread (Note 1) width of a tyre or tyres fitted to a road wheel (Figure 7-3-1), except on a trailer designed for industrial purposes where it is not practicable to fit a full mudguard due to the vehicle's construction.

3. A trailer used for transporting round timber is not fitted with at least partial mudguards mounted behind the rearmost axle that meet the following requirements (Figure 7-3-2):

- the mudguard must provide continuous protection from a horizontal at the top of the tyre to a line rising rearward with a slope of 1 in 3 from the tyres contact point on the road, and
- the distance between the tyre and the mudguard must not be more than twice the distance from the centre of the wheel to the road.

4. 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 7-3-2), 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.

Mudguard condition

5. A mudguard is not securely fixed to the vehicle.

6. A mudguard is so constructed or damaged that it is likely to present a hazard to road users.

Note 1

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 on the plane of the wheel.

Tyre tread means the portion of a tyre that contacts the road.

Figure 7-3-1. Position of mudguard in relation to tyre tread

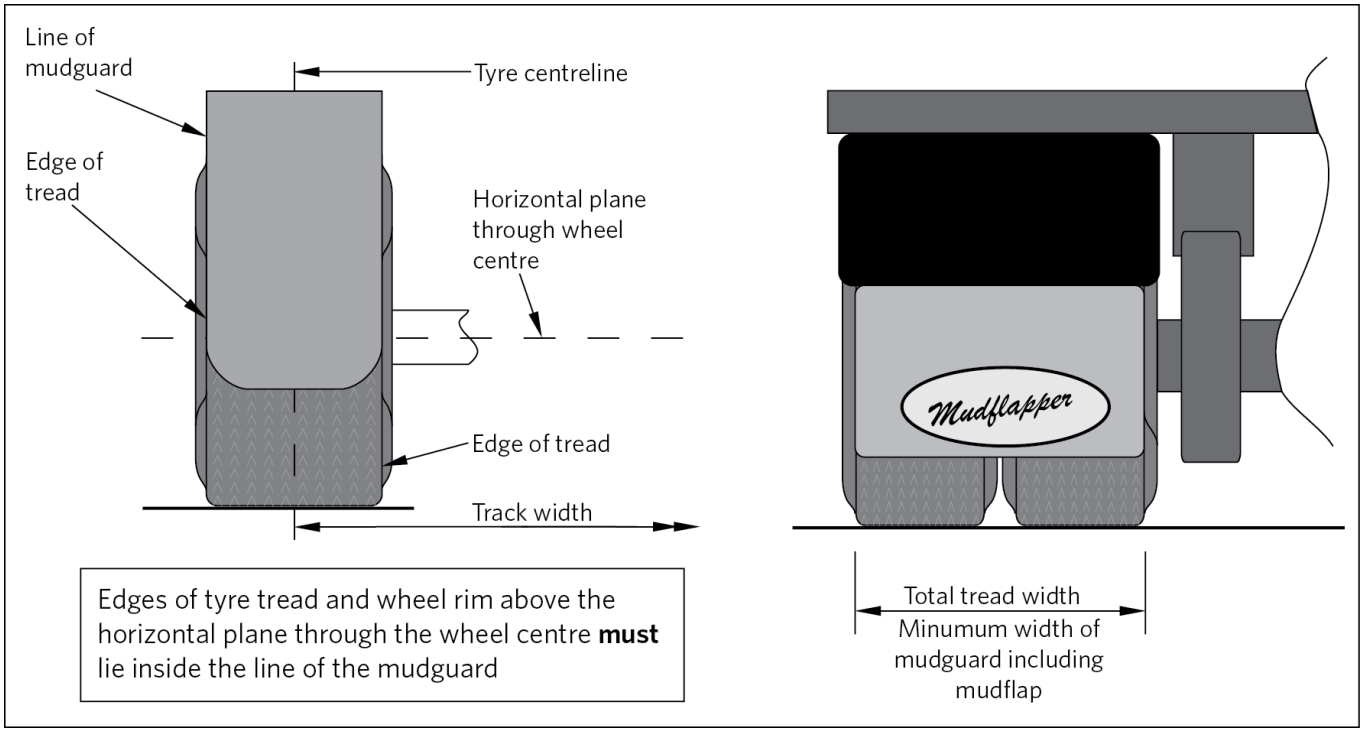
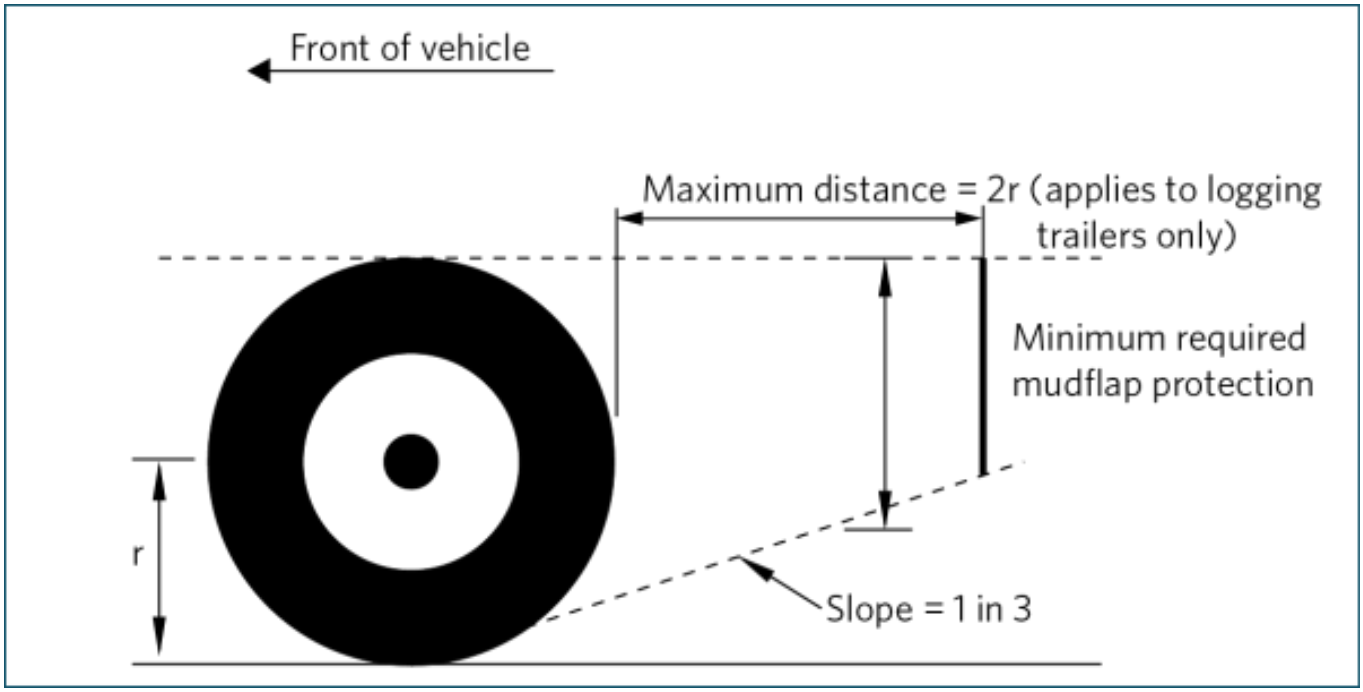


Figure 7-3-2. Size and position of mudguards for the rear wheels of a trailer fitted with dual wheels or close-spaced multiple wheels and logging trailers



Summary of legislation

Applicable legislation

- Land Transport Rule: Tyres and Wheels 2001
- Land Transport Rule: Vehicle Equipment 2004

Mandatory equipment

1. A trailer must be fitted with a mudguard (Note 1) over each road wheel if it is reasonable and practicable to do so.

2. A mudguard must cover no less than the width of the tyre tread on each road wheel (Figure 7-3-1).

3. A trailer 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 1) to a line with a slope of 1 in 3 rising rearward from the tyre's contact point on the road (Figure 7-3-2).

4. A trailer designed for industrial purposes may be fitted with partial mudguards if the vehicle's construction makes it impracticable to fit full mudguards.

5. A trailer used for transporting round timber that cannot be fitted with mudguards over each road wheel must have at least partial mudguards mounted behind its rearmost axle that comply with the following (Figure 7-3-2):

    a) the mudguard must provide continuous protection from a horizontal line tangent to the top of the tyre tread to a line with a slope of 1 in 3 rising rearward from the tyre's contact point on the road, and

    b) the distance between the tyre and the mudguard must not be more than twice the tyre rolling radius.

6. The following trailers 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 trailer towed by a vehicle that is not capable of exceeding a speed of 30 km/h.

Mudguard condition

7. A mudguard must be securely fixed to the vehicle and must be constructed so that it does not present a hazard to road users.

8 Towing connections

8-2 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 or label attached to the vehicle as required in Table 8-2-1.

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:

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.

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 8-2-1), or

e) is not attached to the drawbeam 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.

Mandatory equipment

6. A towbar does not have provision for securely fitting the safety chain from a trailer coupling, except for:

a) New Zealand Defence Force vehicles.

b) fire fighting vehicles.

Condition

7. 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.

8. The towbar coupling (tow ball):

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

9. A towbar fitted to a heavy vehicle was last certified by Peter Wastney (PW) of Peter Wastney Engineering Ltd (for sample certification plates see Figure 8-2-1).

10. A towbar fitted to a heavy vehicle was last certified by Patrick Chu (ZC) of Transport and Structure Ltd (for sample certification plates see Figure 8-2-1).

Modification and repair

11. A modification or repair affects the towbar and:

a) is not excluded from the requirements for HVS certification (Table 8-2-2), 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 HVET or HMTD has been presented.

Note 1

Towbar means that part of the towing vehicle to which a coupling for a light trailer is connected.

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 (examples: fifth wheel, hook, pin, ball or socket type).

Light trailer means a trailer that has a gross vehicle mass of 3500kg or less.

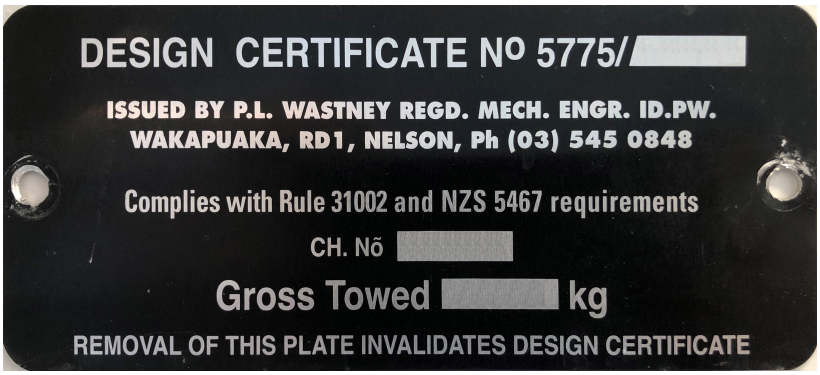
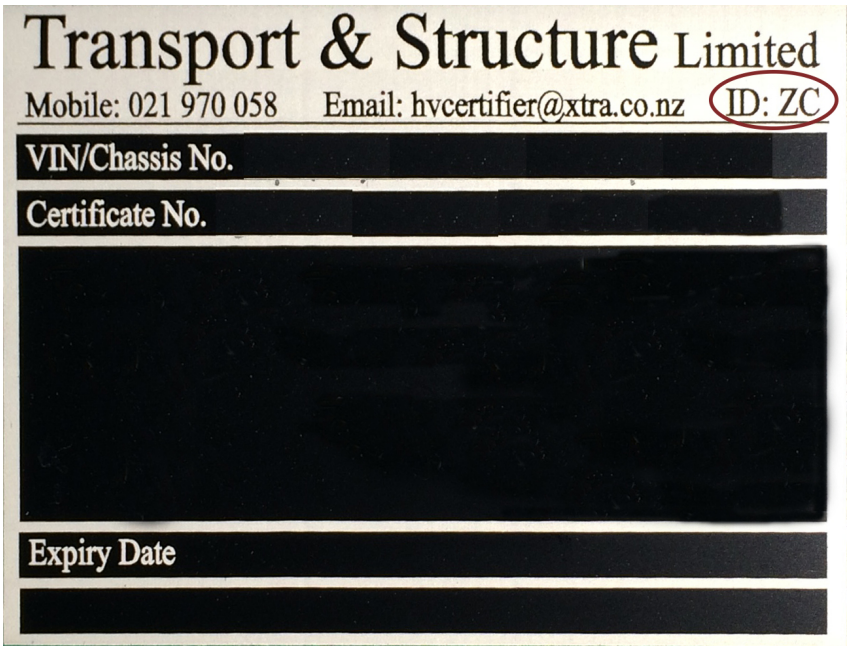
Table 8-2-1. Minimum information on towbar certification label/plate

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	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) inkg (maximum of 2000 kg)

Table 8-2-2. Requirements for HVS certification

HVS certification is required	HVS certification is not required
1. Fitting of a towbar	1. 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 8-2-1. 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
- 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, Specifications for Ball-and-Socket Type Trailer Couplings.

Mandatory requirement

1. A towbar fitted to a heavy trailer 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 heavy trailer on or after 1 April 2006 for towing a light trailer must comply with and be certified to NZS 5467: 1993.

Mandatory equipment

3. 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

4. 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

5. 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 8-2-2), 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**).

8-3 Drawbar

Reasons for rejection

Mandatory requirement

1. A drawbar fitted to a heavy trailer (other than an agricultural trailer to which **section 8-5** applies) does not have evidence of certification as complying with NZS 5446, ie:

a) the drawbar 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 drawbar 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) the drawbar is not fitted with a certification label (Table 8-3-1).

2. The certification label:

a) is not indelible, or

b) is illegible, or

c) is not complete, or

d) is not attached to the drawbar in an easily visible position, or

e) does not match the vehicle, or

f) has obvious signs of tampering, or

g) has expired.

3. For a pole trailer that carries its load as a rigid single span secured to both the towing vehicle and the pole trailer:

a) the maximum towed mass of the drawbar is not equal to or greater than the unladen mass of the pole trailer, or

b) the certification plate attached to the drawbar does not state that the maximum towed mass applies only when the trailer is unladen.

Mandatory and permitted equipment

4. A full trailer (other than a logging trailer, or a trailer designed for the through loading of livestock or goods, or a trailer with an adjustable drawbar fitted before 1 July 2002):

a) is fitted with a telescopic or sliding drawbar, or

b) has a drawbar with more than one on-road operating position.

5. A permitted retractable drawbar on a stock or goods trailer that is a full trailer has:

a) no locking pin holes, or

b) more than one set of locking pin holes, or

c) locking pin holes that are not positioned so that the drawbar is fully extended when locked.

6. A telescopic drawbar on a logging trailer that is a full trailer has more than:

a) one sliding position for long logs, or

b) two fixed positions for short logs, or

c) one fixed position for storage of the drawbar when it is out of use while the trailer is being transported.

7. A telescopic or sliding drawbar does not have endstops or a secondary locking device to prevent separation if the primary locking device fails.

8. A socket-type coupling does not have a locking device or a separate means of retaining this device in the locked position.

Condition and performance

9. 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, or

f) not protected from striking the ground.

10. The towing eye:

a) is not protected from striking the ground, or

b) is worn beyond (Note 1):

i. 41.6mm for a 40mm towing eye, or

ii. 51.5mm for a 50mm towing eye, or

c) has been repaired, or

d) is the demountable type and has been welded, or

e) is the weld-in type and has been welded other than parallel to the shank (Figure 8-3-1) or as permitted by the towing eye manufacturer

f) is a bolt-in towing eye and shows evidence:

i. of looseness around the securing nut, split pin or washer, or

ii. in the form of witness or fretting marks between the mounting boss and tow eye, or

iii. that the retainer nut has been re-tightened, having been loose.

Note: it is vitally important that there be no re-tightening of this component should there be any movement detected as this can cause failure and result in the trailer separating from the towing vehicle.

11. Locking of the coupling is not readily verifiable by visual inspection.

12. A coupling locking device is in such condition that it is not effective.

13. A telescopic or sliding drawbar:

a) endstop is not substantial enough to be effective, or

b) locking device is in such condition that it is not effective.

14. A drawbar pivot (hinge) pin/bush clearance is more than 1/8th of the pin diameter (eg for a 24mm pin, the clearance is more than 3mm).

15. The drawbar or drawbar mounting has corrosion damage within 150mm of a mounting point.

16. A drawbar on a full trailer has more than one operating position.

Revoked certifications

17. A drawbar fitted to a heavy vehicle was last certified by Peter Wastney (PW) of Peter Wastney Engineering Ltd (for sample certification plates see Figure 8-3-3).

18. A drawbar fitted to a heavy vehicle was last certified by Patrick Chu (ZC) of Transport and Structure Ltd (for sample certification plates see Figure 8-3-3).

Modification and repair (Note 3)

19. A modification or repair affects the drawbar and:

a) 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 an HVS certifier of category HVET or HMTD has been presented.

Note 2

Agricultural trailer means a trailer constructed to be operated in connection directly with the operation or management of a farm; does not include a logging trailer.

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 (eg: fifth wheel, hook, pin, ball or socket type).

Drawbar means an assembly of components that includes the trailer coupling that connects the trailer to the coupling of the towed vehicle, hinges (where applicable), and the structural and other related components between the trailer coupling and trailer bogie or chassis.

Pole trailer means a trailer that is attached to a towing vehicle by a telescoping or sliding pole, and is designed to support a common long load spanning between the trailer and the towing vehicle.

Note 3

A towing connection that was certified to New Zealand Standard 5446: 1987 (superceded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

Note 4

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 **section 8-4** for wear limits and other relevant requirements.

Table 8-3-1. Minimum information on drawbar certification label/plate

NZS 5446: 1987	NZS 5446: 2007	NZS 5446: 2024
Company or agency name	Person, company or agency name	Person, company or agency name
Certifying engineer	Certifier ID	Certifier ID
VIN/Chassis number	LT400 number*	LT400 number*
Maximum towed mass (kg)	VIN/Chassis number	VIN/Chassis number
Expiry date (if certified on or after 1 August 1991)	Maximum towed mass	Maximum towed mass
	Maximum static vertical load (where applicable)*	Maximum static vertical load (where applicable)*
	Coupling D value (minimum) (where applicable)*	Coupling D value (minimum) (where applicable)*
	Drawbar length	Drawbar length
	Turntable lock (Yes/No)	Turntable lock fitted (if applicable)
	Expiry date	Expiry date
	NZS 5446	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 8-3-1. Permitted welding on towing eye shank

Content not available

Figure 8-3-2. Drawbar components

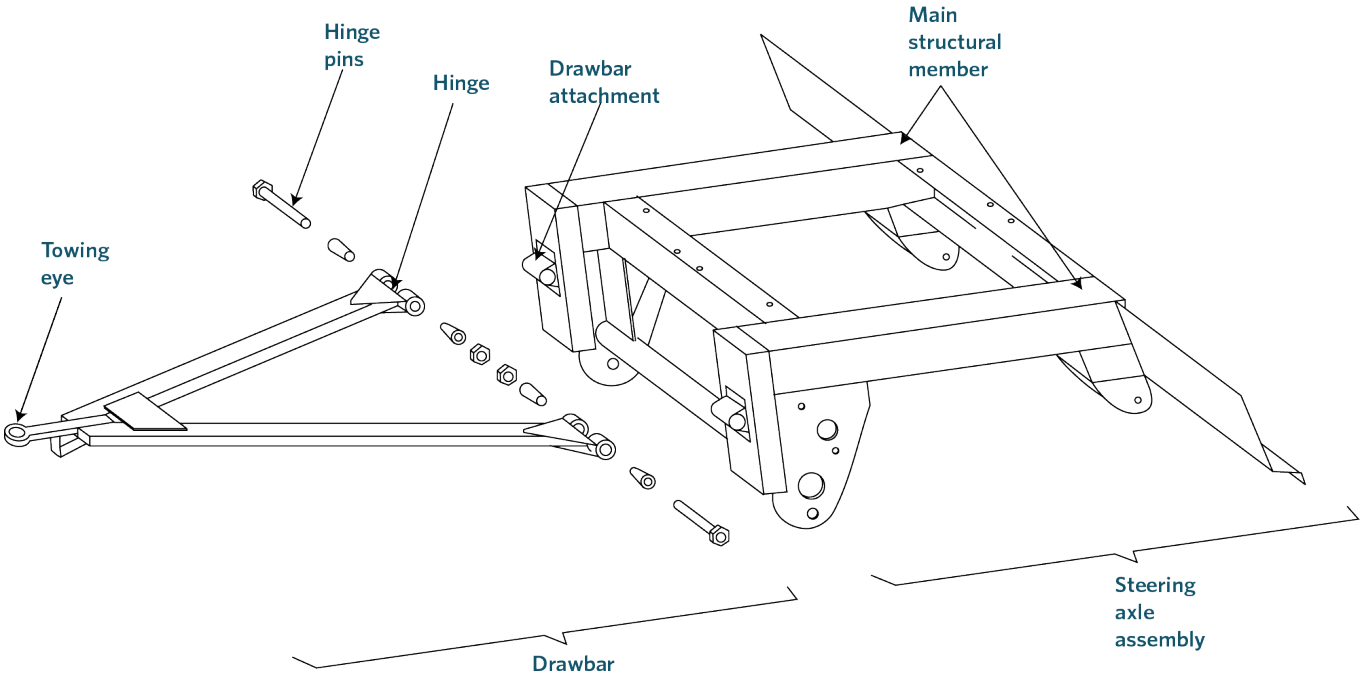
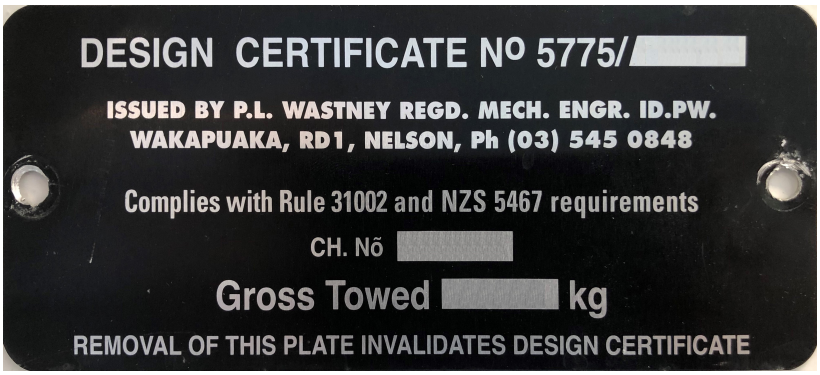
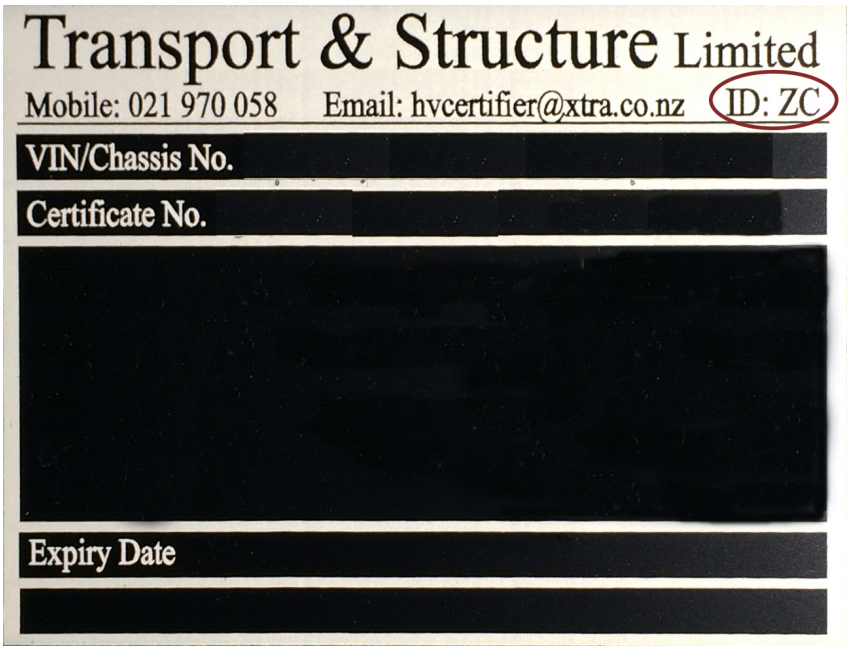


Figure 8-3-3. Sample certification plates (Peter Wastney Ltd and Patrick Chu (ZC) of Transport and Structure Ltd)

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: Vehicle Dimensions and Mass 2002
- 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 drawbar fitted to a vehicle used in a combination (other than an agricultural trailer to which section 8-5 applies) must comply with NZS 5446.

2. For a pole trailer that carries its load as a rigid single span secured to both the towing vehicle and the pole trailer:

    a) the maximum towed mass of the drawbar must be equal to or greater than the unladen mass of the pole trailer, and

    b) the certification plate attached to the drawbar must state that the maximum towed mass applies only when the trailer is unladen.

Mandatory and permitted equipment

3. A socket-type coupling must have an effective locking device and a separate means of retaining this device in the locked position.

4. A drawbar on a full trailer must not be extendable except as follows:

    a) to facilitate the loading of livestock or goods, provided the drawbar has only one set of locking pin holes positioned so that the drawbar is fully extended when locked,

    b) a logging trailer with a drawbar that has no more than:

        i. one sliding position for long logs.

        ii. one or two fixed positions for short logs.

        iii. a fixed position for storage of the drawbar when it is out of use while the trailer is being transported.

5. A telescopic drawbar must have endstops or a secondary locking device to prevent separation if the primary locking device fails.

Condition

6. 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.

7. A drawbar on a full trailer may have only one operating position.

8. Locking off the coupling must be readily verifiable by visual inspection.

Modification and repair

9. A modification or repair that affects the drawbar must be inspected and certified by an HVS certifier of category HVET or HMTD.

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

8-4 Drawbeam

Reasons for rejection

Mandatory requirement

1. A drawbeam fitted to a heavy trailer, other than an agricultural vehicle to which **section 8-5** 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** that 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 8-4-1.

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.

Mandatory equipment

3. 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

4. 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.

5. Locking of the coupling is not readily verifiable by visual inspection.

6. A coupling locking device is in such condition that it is not effective.

7. 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.

8. A towing hook or pin has been repaired or welded.

9. 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.

10. A drawbeam designed for towing a full trailer is sliding or adjustable.

Revoked certifications

11. A drawbeam fitted to a heavy vehicle was last certified by Peter Wastney (PW) of Peter Wastney Engineering Ltd (for sample certification plates see Figure 8-4-2).

12. A drawbeam fitted to a heavy vehicle was last certified by Patrick Chu (ZC) of Transport and Structure Ltd (for sample certification plates see Figure 8-4-2).

Modification and repair

(see Note 3)

13. 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 an HVS certifier of category HVET or HMTD has been presented.

Note 2

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; it includes a semi-trailer with non-steering axles coupled to a converter dolly.

Note 3

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 8-4-1. Minimum information on drawbeam certification label/plate

NZS 5446: 1987	NZS 5446: 2007 / NZS 5446: 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 drawbeams do not have turntable locks, nor do they require a drawbar length.

Figure 8-4-1. Drawbeam components

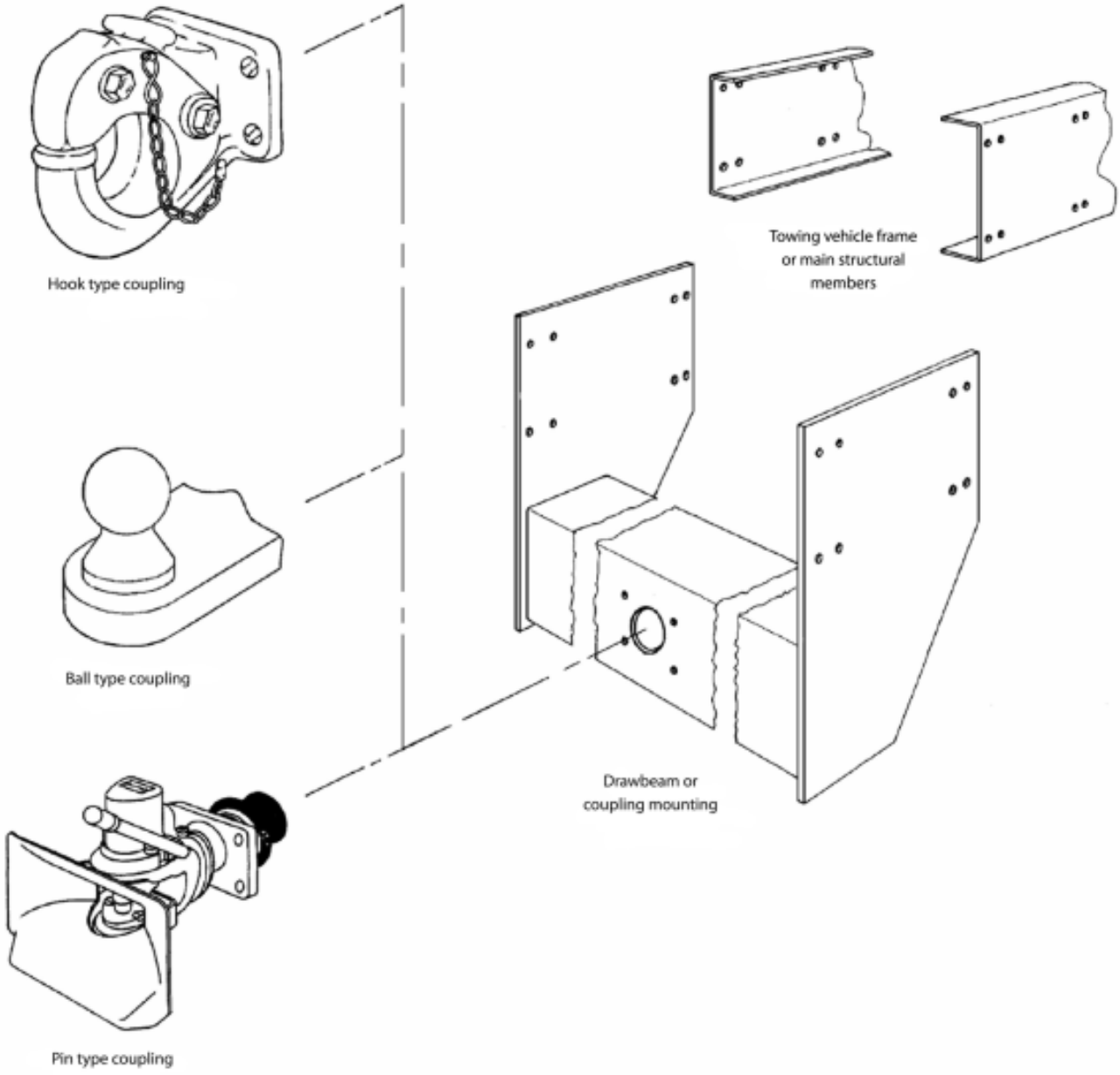
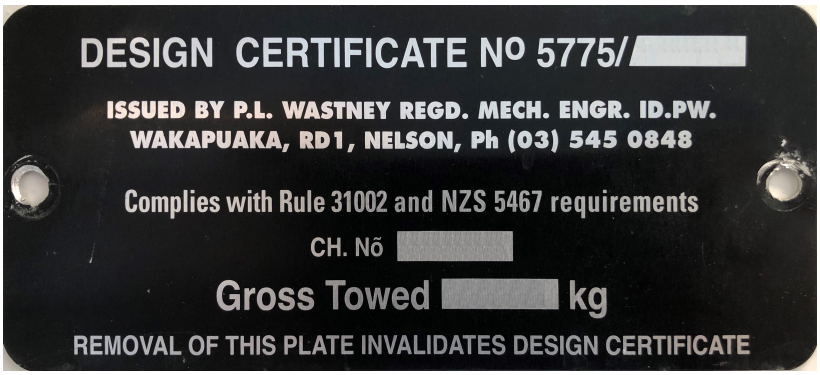
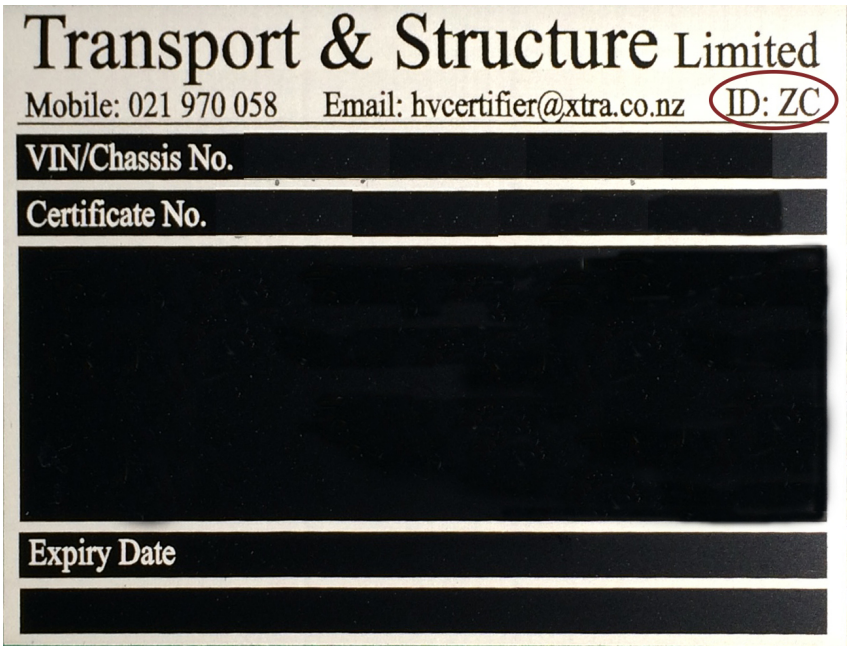


Figure 8-4-2. Sample certification plates (Peter Wastney Ltd and Patrick Chu (ZC) of Transport and Structure Ltd)

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: Vehicle Dimensions and Mass 2002
- 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 equipment

1. A drawbeam fitted to a heavy trailer, other than an agricultural trailer to which **section 8-5** applies, used in a combination, must comply with New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Vehicle Towing Connections: Drawbar Trailers.

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

8-5 Agricultural trailer towing connection

Reasons for rejection

Mandatory equipment

1. An agricultural trailer fitted with a towing connection other than a two- or three-point agricultural linkage does not have a safety chain permanently attached to the trailer.

2. A mandatory safety chain does not meet all of the following requirements:

- Have a breaking strength of at least the gross mass towed (as far as the vehicle inspector can determine that)
- Have its breaking strength identified
- Chain length must allow full articulation and prevent contact of coupling with the ground in case of coupling failure.

Condition

3. A towing connection component including a safety chain is:

a) damaged, deformed, cracked or has significantly deteriorated, or

b) worn beyond manufacturer's specifications, or

c) has corrosion damage within 150mm of a mounting point, or

d) not securely attached, or

e) missing, or

f) not mounted in accordance with manufacturer's specifications, or

g) welded, and the weld metal has not been applied in accordance with good trade practice (direct welding of a safety chain is not permitted).

Note 1

Agricultural trailer, for the purposes of this section, means a trailer constructed to be operated in connection directly with the operation or management of a farm; does not include a logging trailer.

Three-point linkage means, for a tractor or agricultural trailer, a towing connection that has three points of attachment.

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.

Two-point linkage means, for an agricultural trailer, a towing connection that has two points of attachment.

Summary of legislation

Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004.

Mandatory equipment

1. An agricultural trailer fitted with a towing connection other than a two- or three-point agricultural linkage must have either one safety chain fitted.

2. An agricultural trailer fitted with a towing connection other than a two-point or three-point linkage must have a safety chain permanently attached to it and that chain must:

a) have a breaking strength of at least the gross mass towed, and

b) have its breaking strength identified, and

c) be attached to the trailer by means other than by welding of the chain itself, and

d) be adjustable in length to eliminate a tight or loose chain.

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 operation for which the vehicle was constructed.

4. Towing connections must be fit for purpose and in sound condition.

Page amended **1 June 2013** (see amendment details).

8-6 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 trailer does not have evidence of certification (unless excepted in Table 8-6-1), 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 certified to:

a) NZS 5450: 1989, or

b) 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.

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, or

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 heavy trailer 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' (4085A form) is:

a) not presented, or

b) incomplete (Note 2), or

c) not current, that is 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 15,000 km 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 8-6-2, or

c) is not part of a dedicated combination (Note 6).

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.

10. A fifth wheel or ball type coupling is installed to the front of a semi-trailer (Note 7).

Condition and performance (Note 3)

11. 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 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.

12. 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).

13. 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)

14. A modification or repair affects the coupling and:

a) is not excluded from the requirements for HVS certification (Table 8-6-1), 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 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

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 affixed by the HVS certifying engineer).

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.

Note 7

Some car transporters are fitted with an inverted and front-to-back fifth wheel and kingpin combination. This is permitted. Please refer to the appropriate towing connection sections for the relevant inspection requirements.

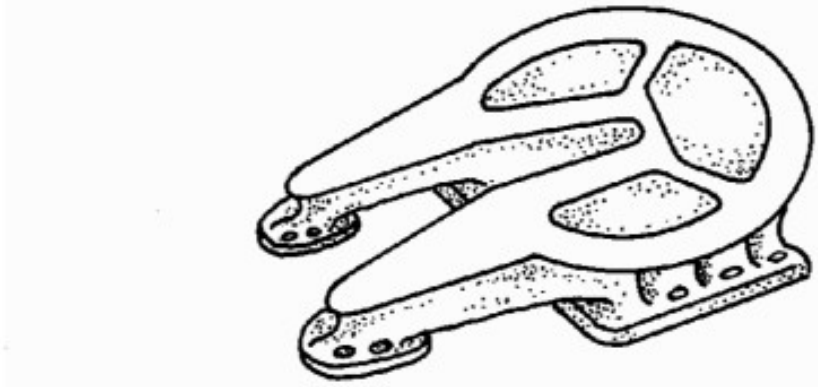
Table 8-6-1. Requirements for HVS certification

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.	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 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).

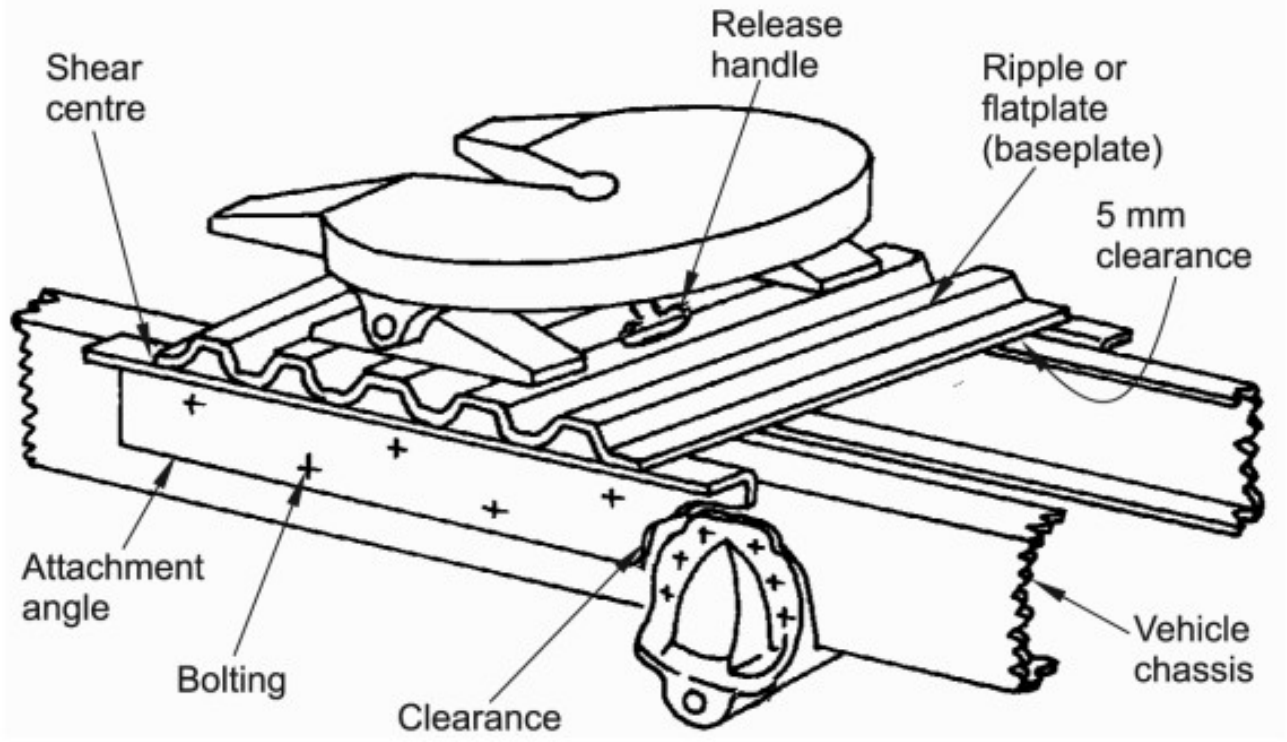
Table 8-6-2. Minimum information on certification label/plate

NZS 5446: 1987	NZS 5446: 2007 / NZS 5446: 2024
Company or agency name	Person, company or agency name
Certifying engineer	Certifier ID
VIN/Chassis number	Compliance certificate number (LT400)
Maximum towed mass (kg)	VIN/Chassis number
Expiry date (if certified on or after 1 August 1991)	Maximum towed mass
	Permitted static vertical load
	Coupling D value (minimum)
	Expiry date
	NZS 5446

Figure 8-6-1. Fifth wheels

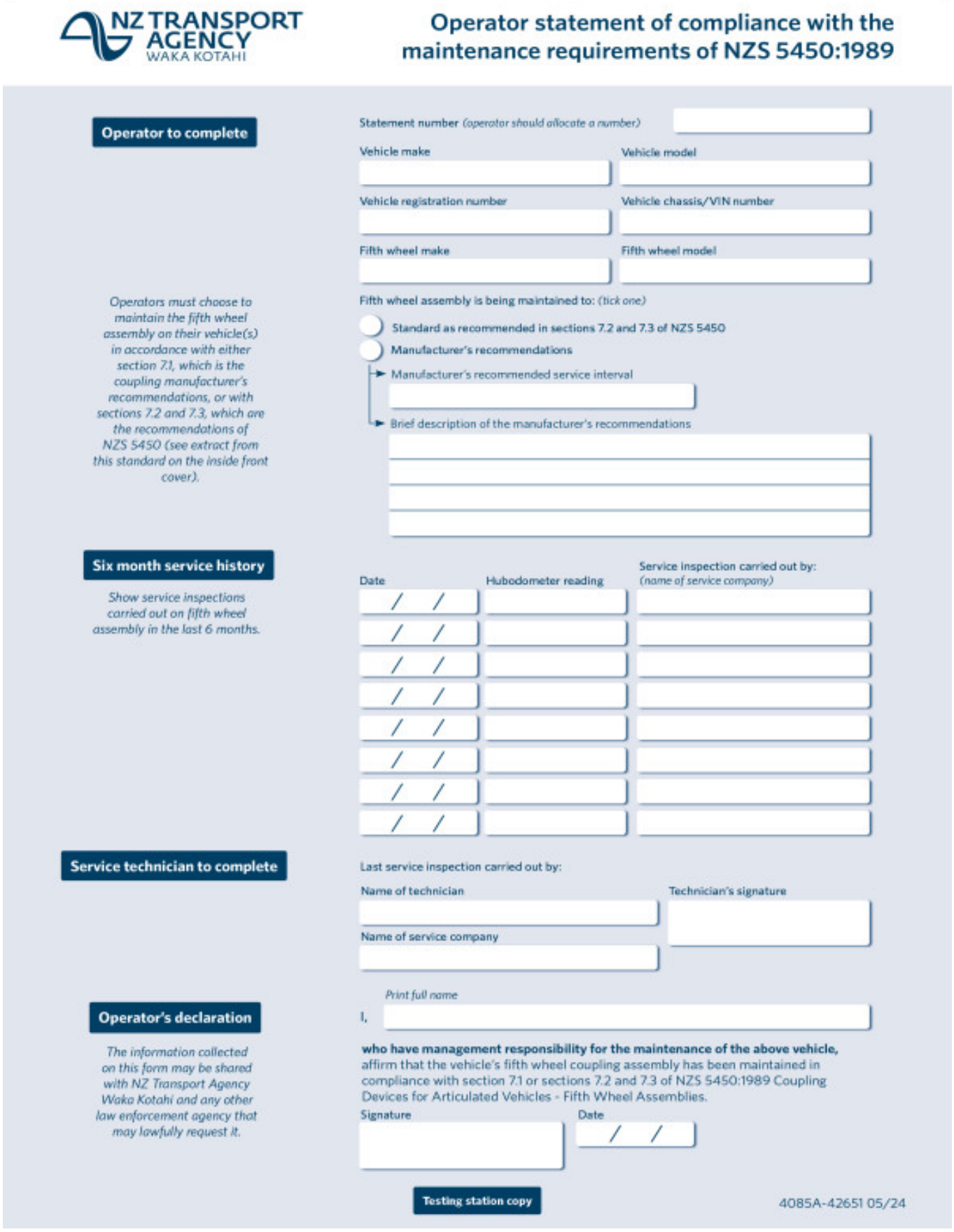


Typical rigid fifth wheel assembly



Typical fifth wheel assembly mounting

Figure 8-6-2. 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 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 equipment

1. A trailer 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 NZS 5446 and be operated as part of a dedicated coupling.

2. A 50mm diameter fifth wheel must comply with:

    a) NZS 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.

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 (Note 1), and

    b) Australian Standard 1771–1996 (Note 1), 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 4968.1–2003, and

b) AS/NZS 4968.2–2003, and

c) AS 2174–2006.

6. A trailer 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 be not less than 60mm high.

7. A rigid fifth wheel fitted to a trailer must be installed and maintained in accordance with the fifth-wheel manufacturer's instructions.

Condition

8. Towing connection components fitted to a trailer 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 the coupling must be inspected and certified by an HVS certifier of category HVET or HMTD unless the vehicle:

a) excluded from the requirement for HVS certification (Table 8-6-1), 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**)

8-7 Heavy vehicle kingpin or socket coupling (for towing a semi-trailer)

Reasons for rejection

Mandatory equipment

1. A semi-trailer is not fitted with:

a) a 50mm or 90mm diameter kingpin and a skid plate, or

b) a socket-type coupling.

2. A kingpin or socket-type coupling fitted to a heavy semi-trailer does not have evidence of certification (unless excepted in Table 8-7-1), 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 kingpin and associated skid plate has not been certified to:

a) NZS 5451, or

b) 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) UN/ECE Regulation 55 (if fitted to an imported, powered vehicle).

4. A 90mm diameter kingpin and skid plate installed on or after 1 April 2005 has not been certified to both of the following standards:

a) AS/NZS 4968 (supersedes AS 2175 and AS4235), and

b) AS 2174.

5. A trailer that is fitted with a 90mm diameter kingpin does not have '90mm kingpin', where '90' is at least 100mm high, clearly displayed in a position readily visible at the lower right-hand side of the front end of the trailer.

6. A vehicle is fitted with a socket-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 8-7-2, or

c) is not part of a dedicated combination (Note 1).

7. 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.

8. A hook- or pin-type coupling does not have a locking device or a separate means of retaining this device in the locked position.

9. A kingpin or socket-type coupling has been installed to the rear of a towing vehicle (Note 2).

10. An **NZTA 4085B Operator statement of skidplate maintenance** form is:

a) not presented, or

b) not complete (Note 3), or

c) not current (ie more than 30 days have lapsed or 15,000km has been travelled, whichever occurred sooner, since the most recent inspection recorded on the form).

See also the **Heavy vehicle servicing: skid plate inspection guide**.

Condition and performance (Note 5)

11. A skid plate or skid-plate mounting:

    a) is not securely attached, or

    b) is cracked, distorted or has significantly deteriorated, or

    c) has corrosion damage within 150mm of the mounting points.

12. 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 deteriorated, or

    d) has corrosion damage within 150mm of its mounting points, or

    e) has been repaired, or

    f) is excessively worn, ie there is excessive play.

13. Locking of the coupling is not readily verifiable by visual inspection.

14. A coupling locking device is in such condition that it is not effective.

Modification and repair (Note 2)

15. A modification or repair affects the kingpin or skid plate, or socket-type coupling and:

    a) is not excluded from the requirements for HVS certification (Table 8-7-1), 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 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

Kingpin means a pin attached to the skid plate of a semi-trailer and used for connecting the semi-trailer to the fifth wheel of a towing vehicle.

Skid plate means the plate structure forming part of the semi-trailer that houses the kingpin and that mounts on the coupler plate to form the connection between the towing vehicle and the semi-trailer.

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.

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.

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 affixed by the HVS certifying engineer).

Note 2

A towing connection that was certified to New Zealand Standard 5446: 1987 (superceded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

Note 3

Where the service history is incomplete (except for pass/fail checks and signature), the CoF inspector must note this on the CoF checksheet, but the vehicle is not required to be failed for this reason alone. The CoF inspector can accept a form signed either by a technician or operator.

Note 4

Some car transporters are fitted with an inverted and front-to-back fifth wheel and kingpin combination. This is permitted. Please refer to the appropriate towing connection sections for the relevant inspection requirements.

Note 5

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 6

While not included as an inspection item, a vehicle may not be towed using a fifth wheel coupled to another fifth wheel.

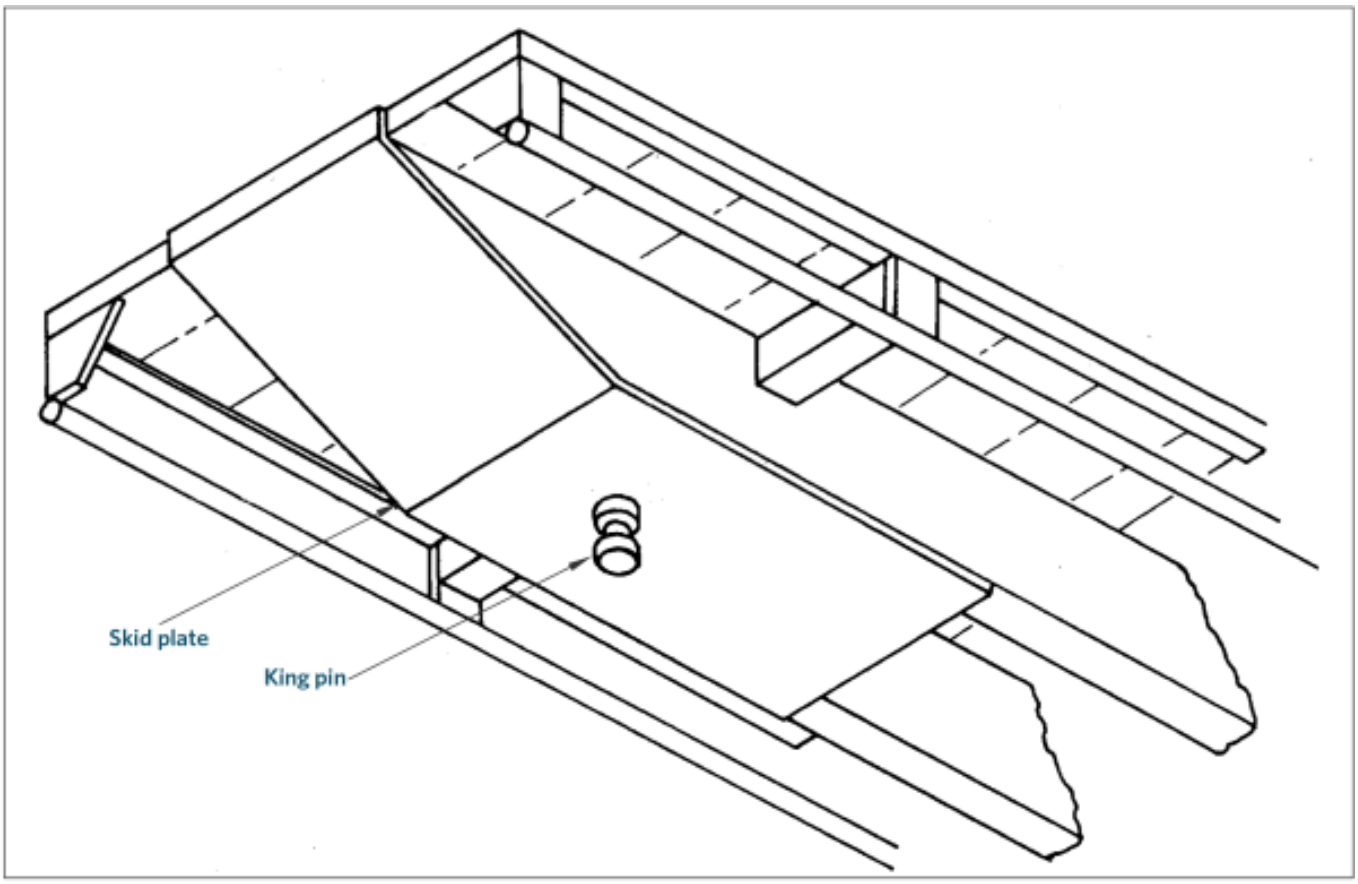
Table 8-7-1. Requirements for HVS certification

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.	1. Kingpin or socket 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 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 inspection 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).

Table 8-7-2. Minimum information on certification label/plate

NZS 5446: 1987	NZS 5446: 2007 / NZS 5446: 2024
Company or agency name	Person, company or agency name
Certifying engineer	Certifier ID
VIN/Chassis number	Compliance certificate number (LT400)
Maximum towed mass (kg)	VIN/Chassis number
Expiry date (if certified on or after 1 August 1991)	Maximum towed mass
	Maximum static vertical load
	Coupling D value (minimum)
	Expiry date
	NZS 5446

Figure 8-7-1. Kingpin and skid plate



Summary of legislation

Applicable legislation

- **Land Transport Rule: Heavy Vehicles 2004**
- New Zealand Standard 5451: 1989, Coupling Devices for Articulated Vehicles – Fifth Wheel Kingpins
- Australian Standard 2175: 1995, Articulated Vehicles – Kingpins
- Australian/New Zealand Standard 4968: 2003, Heavy Road Vehicles – Mechanical Coupling between Articulated Vehicle Combinations., Parts 1–3 (supersedes AS 2175).
- Australian Standard 2174:1994, Articulated Vehicles – Mechanical Coupling between Prime Movers and Semi-Trailers – Interchangeability Requirements
- Australian Standard 4235: 1994, Articulated Vehicles – Design Criteria for Fifth Wheel Skid Plates
- 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 equipment

1. A semi-trailer must be fitted with:

    a) a 50mm or 90mm diameter kingpin, and a skid plate, or

    b) a socket type coupling certified to NZS 5446 and operated as part of a dedicated combination.

2. A 50mm diameter kingpin and associated skid plate fitted to a vehicle must comply with:

    a) NZS 5451, 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, powered 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 kingpin fitted to a vehicle before 1 April 2005 must be certified by an HVS certifier.

4. A 90mm diameter kingpin fitted to a vehicle on or after 1 April 2005 must comply with both:

    a) AS/NZS 4968 (supersedes AS 2175), and

    b) AS 2174.

5. A skid plate fitted to a vehicle on or after 1 April 2005 and before 29 December 2007 in connection with a 90mm diameter kingpin must comply with AS 4235.

6. A skid plate fitted to a vehicle on or after 29 December 2007 in connection with a 90mm diameter kingpin must comply with AS/NZS 4968.

7. A vehicle that is fitted with a 90mm diameter kingpin must have clearly displayed in a position readily visible at the lower right-hand side of the front end of the vehicle ‘90mm kingpin’ where ‘90’ must not be less than 100mm high.

8. A socket-type coupling must have an effective locking device and a separate means of retaining this device in the locked position.

Condition and performance

9. 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.

10. A coupling fitted to a vehicle must not have any cracks that can be detected by means of visual inspection.

11. Locking of the coupling must be readily verifiable by visual inspection.

12. A skidplate and kingpin must remain in safe tolerance of the state of manufacture or last modification.

Modification and repair

13. A modification or repair that affects the coupling 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 8-7-1), 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**)

9 Miscellaneous items

9-1 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 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 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.

10 Load restraints

10-1 Load anchorages

Reasons for rejection

Mandatory requirements

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 10-1-1.

Mandatory equipment

2. A trailer 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 trailer is one of the following:

a) a trailer 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 trailer fitted with a stock crate and stock crate retention devices (refer to **section 10-2**)

c) a curtain-sided body fitted with a load-rated curtain and curtain anchorage system (refer to **section 10-5**)

d) a trailer fitted with logging bolsters (refer to **section 10-3**).

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 10-1-2), 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

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 10-1-1. 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 10-1-2. 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 generally 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.

Mandatory requirement

1. Load anchorage points (hooks, rope rails, twist locks, tie-down rings, keyhole plates and chain slots) must comply and be certified to NZS 5444.

Mandatory equipment

2. A trailer that is constructed to transport a load must be fitted with load-securing equipment (Note 1).

3. A trailer must have load anchorage points that are certified by an HVS certifier as complying with New Zealand Standard 5444, unless the trailer is one of the following:

> a) a trailer 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 trailer fitted with a stock crate and stock crate retention devices (refer to section 10-2), or

c) a curtain-sided body fitted with a load-rated curtain and curtain anchorage system (refer to section 10-5), or

d) a trailer fitted with logging bolsters (refer to section 10-3).

4. A load anchorage must be certified by an HVS certifier of category HVEA or HMAD.

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 10-1-2), 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**).

Page updated 18 December 2023 (see **update details**).

10-2 Stock crates and stock crate retention devices

Reasons for rejection

Mandatory equipment

(see **Technical bulletin: Stock crate retention**)

1. A monocoque stock trailer with a GVM of 6000kg or more, or a stock crate, including its retention devices (Figure 10-2-1), fitted to a vehicle with a GVM of 6000kg or more, has no manufacturer's plate certifying construction in accordance with NZS 5413, that specifies at least all of the following details as appropriate:

a) company name, and

b) stock crate serial number, and

c) date of manufacture of stock crate, and

d) restraint capacity total in kilograms (does not apply to monocoque stock crates), and

e) restraint capacity individual in kilograms (does not apply to monocoque stock crates), and

f) number of restraints per side (does not apply to 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 vehicle as required in Table 10-2-1.

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 10-2-2), 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

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

Monocoque *in relation to a vehicle*, means that the chassis of the vehicle is integral to the body.

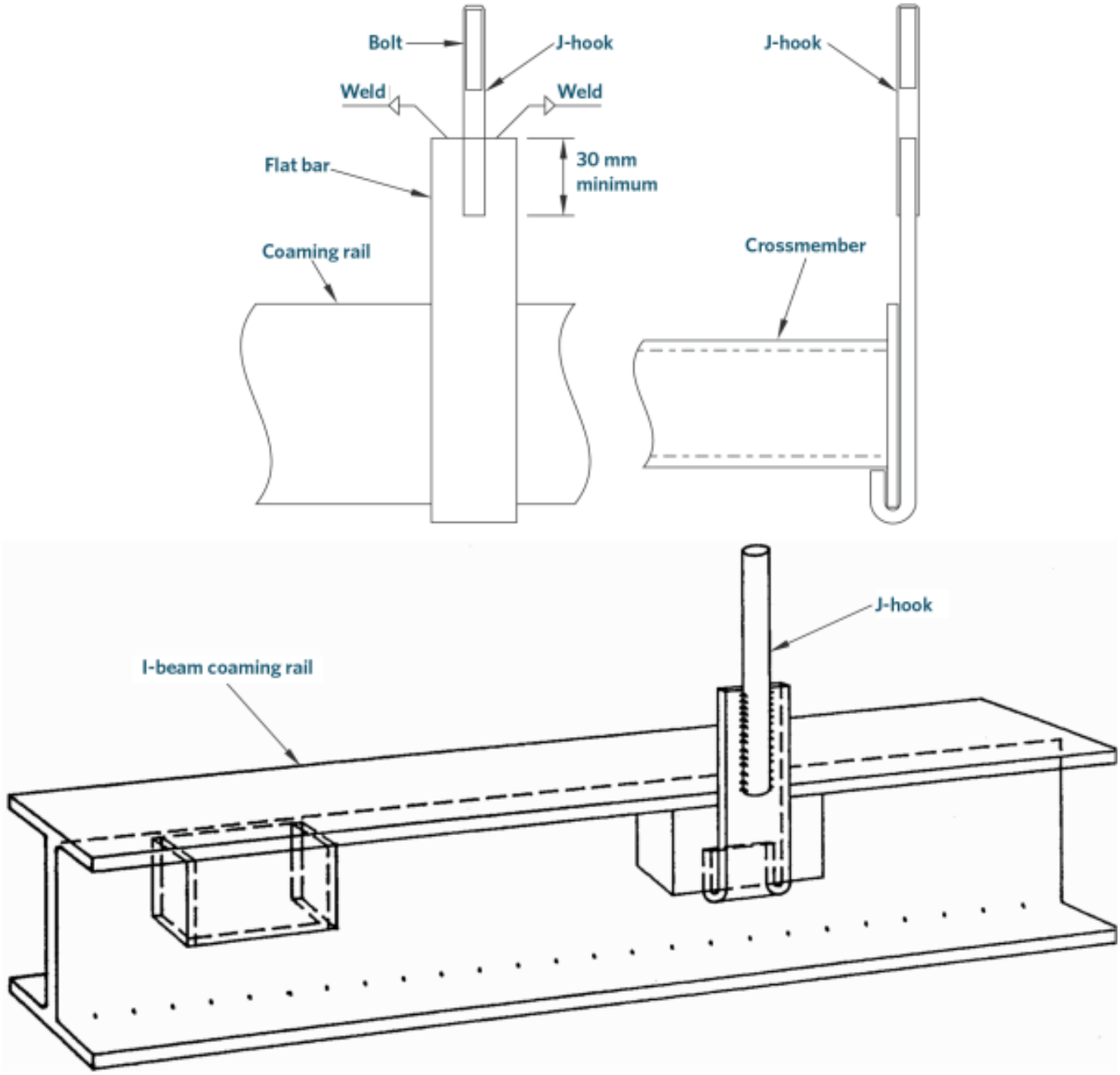
Table 10-2-1. Minimum certification label and plate details required

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 10-2-2. 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 10-2-1. Acceptable types of 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 monocoque stock trailer with a GVM of 6000kg or more, or a stock crate and its retention devices, if fitted to a vehicle with a GVM of 6000kg or more, must be constructed in accordance with NZS 5413 (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. 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

4. External doors shall be firmly fixed to prevent stock from being ejected onto the roadway.

5. 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

6. 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 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 2023** (see **amendment details**).

10-3 Log bolsters

Reasons for rejection

Mandatory requirement

1. A logging bolster attachment fitted to a vehicle that is required to be certified in Table 10-3-1 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.

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 10-3-1, ie there is no LANDATA record of the certification.

Condition

5. A required certification label, plate or marking:

a) is illegible, or

b) is incorrect, eg serial numbers differ between the label and the bolsters, or

c) has 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 10-3-2), 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 10-3-1. 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 10-3-2. 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, HVML or HVIL 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 January 1997 (modifications and repairs before this date generally required certification but for inspection purposes no evidence of this is required). 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).

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 10-3-1.

2. Certification of a logging bolster attachment must be certified 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 is 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 10-3-2), 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**).

10-4 Headboards, sideboards and tailboards

Reasons for rejection

Condition

1. A headboard, sideboard or tailboard:

a) is not securely attached, or

b) has a fastener that is missing or loose, or significantly corroded, or

c) is cracked or significantly distorted or corroded.

Note 1

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.

Condition

1. 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.

2. 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.

10-5 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 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 10-1 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.

11 Certificate of loading

11-1 Certificate of loading

Reasons for rejection

Mandatory requirement

1. A heavy trailer that requires a certificate of fitness does not have a certificate of loading displayed on the vehicle.

2. The vehicle is one of the following and the certificate of loading 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 in the new use.

3. An invalid certificate of loading has not been surrendered to the vehicle inspector.

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.

Figure 11-1-1. Certificate of loading

Summary of legislation

Applicable legislation

- Land Transport Rule: Vehicle Standards Compliance 2002.

Mandatory requirement

1. A heavy trailer that requires a certificate of fitness requires a certificate of loading.

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 trailer 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 in 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.

12 Transport service licence

12-1 TSL

Reasons for rejection

Mandatory requirement

1. The operator of a trailer that requires a transport service licence (Table 12-1-1) has not notified the vehicle inspector of the transport service licence number under which the trailer is operated.

Note 1

If correctly licensed, a vehicle requiring a transport service licence can be identified by the 'L' on the vehicle licence label.

Table 12-1-1. Requirements for transport service licences

Vehicles that require	Vehicles that do not require
Goods service licence:	
Heavy vehicles with a GVM of 6000kg or more and capable of carrying goods	Vehicle recovery service vehicles 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) 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	

Summary of legislation

Applicable legislation

- Land Transport Act 1998.

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.