

Correct as at 6th June 2026. It may be superseded at any time.

Extract taken from: In-service certification (WoF and CoF) > Heavy trailers > Towing connections > Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer)

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.

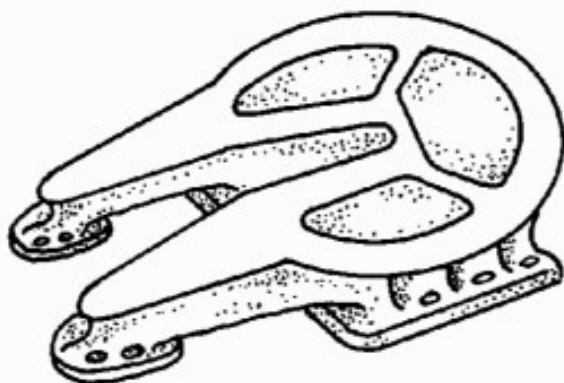
Table 8-6-1. Requirements for HVS certification

HVS certification is required	HVS certification is not required
<p>1. Fitting of a coupling, other than a direct bolt-on replacement.</p> <p>2. Modification or repair of a coupling.</p>	<p>1. Fifth wheel or ball-type coupling that is a direct bolt-on replacement.</p> <p>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).</p> <p>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).</p>

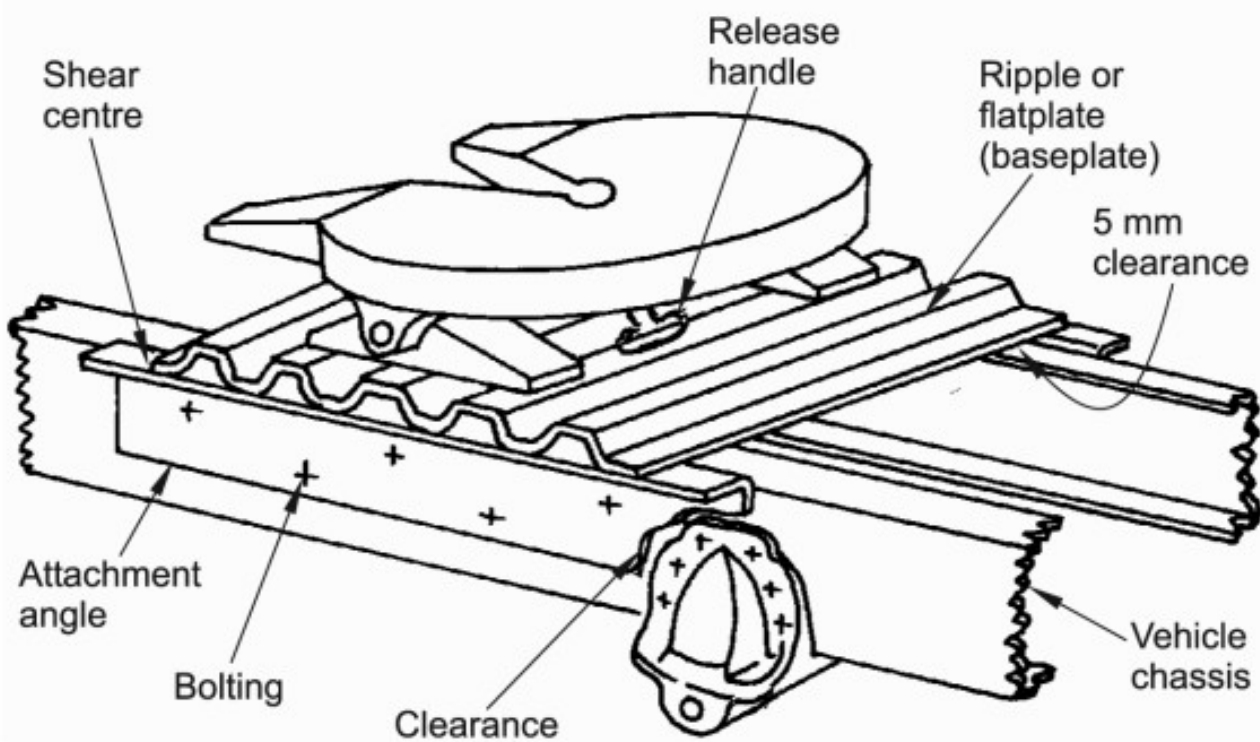
Table 8-6-2. Minimum information on certification label/plate

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)



Operator statement of compliance with the maintenance requirements of NZS 5450:1989

Operator to complete

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).

Six month service history

Show service inspections carried out on fifth wheel assembly in the last 6 months.

Service technician to complete

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.

Statement number (operator should allocate a number)

Vehicle make Vehicle model

Vehicle registration number Vehicle chassis/VIN number

Fifth wheel make Fifth wheel model

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

Date	Hubodometer reading	Service inspection carried out by: (name of service company)
/ /	<input type="text"/>	<input type="text"/>
/ /	<input type="text"/>	<input type="text"/>
/ /	<input type="text"/>	<input type="text"/>
/ /	<input type="text"/>	<input type="text"/>
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/ /	<input type="text"/>	<input type="text"/>
/ /	<input type="text"/>	<input type="text"/>
/ /	<input type="text"/>	<input type="text"/>

Last service inspection carried out by:

Name of technician Technician's signature

Name of service company

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

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](#))