

# Towing connections

12-1 Light vehicle towbar and fifth wheel

12-2 Towbar

12-3 Drawbeam

12-4 Heavy tractor towing connections

12-5 Heavy vehicle fifth wheel and ball coupling (for towing a semi-trailer)



## Towing connections

### 12-1 Light vehicle towbar and fifth wheel

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Vehicle Standards Compliance 2002, section 7.4
- Land Transport Rule: Light-Vehicle Brakes 2002

##### Mandatory equipment

1. 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 Forces
  - b) a trailer pump for fire-fighting purposes.

##### Condition

2. A trailer must be securely attached to the towing vehicle by an adequate coupling.
3. A vehicle must:
  - a) be safe to be operated, and
  - b) have been constructed using components and materials that are fit for the purpose, and
  - c) be within safe tolerance of its state when manufactured or modified.

#### Reasons for rejection

##### Mandatory equipment

1. A towbar fitted to a vehicle 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

2. The towbar or towbar mounting (or fifth wheel or fifth-wheel mounting):
  - a) is not securely attached, or
  - b) has a bolt or nut that is missing or significantly corroded, or
  - c) has corrosion damage (**Note 1**) within 150 mm of the mounting points, or
  - d) is cracked or distorted, or
  - e) jaws are worn beyond manufacturer's specifications or out of adjustment, or
  - f) pivot is seized, worn beyond manufacturer's specifications, or insecure, or
  - g) has any other damage that the vehicle inspector considers has affected the structural integrity of the towbar or its attachment to the vehicle.
3. The towbar coupling (towball):
  - a) is not securely attached, or
  - b) is worn beyond the manufacturer's specifications, or
  - c) is significantly corroded, distorted or cracked, or
  - d) has a nut that is missing or significantly corroded.

**Note 1 Corrosion damage** is where the metal has been eaten away, which is evident by pitting. The outward signs of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by the corrosion damage will fall out and leave a hole.

**Note 2** A towbar attachment is a modification to the vehicle structure (which never requires LVV certification), refer to section 3-1 Structure for structure requirements around the towbar attachments.

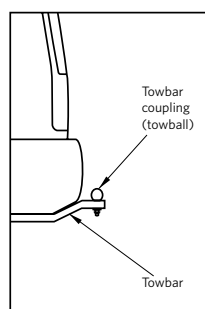


Figure 12-1-1. Towbar and towbar coupling



## Towing connections

### 12-2 Towbar

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004
- Land Transport Rule: Passenger Service Vehicles 1999
- New Zealand Standard 5467: 1993, Code of Practice for Light Trailers
- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Vehicle Towing Connections: Drawbar Trailers
- Policy Statement 5, Appendix A
- New Zealand Standard 5232: 1993, Specification for Ball-and-Socket Type Trailer Couplings

##### Mandatory requirement

1. A towbar fitted to a heavy vehicle before 1 April 2006 must comply with and be certified to:
  - a) NZS 5467: 1993, or
  - b) NZS 5446: 1987, or
  - c) NZS 5446: 1987, amended by Appendix A to Policy Statement 5 for towbars rated for a maximum towed mass of 2000 kg or less.
2. A towbar fitted to a vehicle on or after 1 April 2006 for towing a light trailer must comply with and be certified to NZS 5467: 1993.

##### 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, HVMT or HVIT, unless the vehicle:
  - a) is excluded from the requirement for HVS certification (**Table 12-2-2**), and
  - b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

#### 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, HVMT, HVIT, or
  - c) there is no valid certification plate/label attached to the vehicle as required in **Table 12-2-1**.
2. A towbar fitted to a heavy vehicle before 1 April 2006 for towing a light trailer has not been certified as complying with at least one of the following:
  - NZS 5467: 1993
  - NZS 5446: 1987
  - NZS 5446: 1987, amended by Appendix A to Policy Statement 5 for towbars rated for a maximum towed mass of 2000 kg or less.
3. A towbar fitted to a heavy vehicle on or after 1 April 2006 for towing a light trailer has not been certified as complying with NZS 5467: 1993.
4. The certification label or plate:
  - a) is not indelible, or
  - b) is illegible, or
  - c) is not complete, or
  - d) has expired (where expiry date is required under **Table 12-2-1**), or
  - e) is not attached to the towbar in an easily visible position, or
  - f) does not match the vehicle, or
  - g) has obvious signs of tampering.

## Towing connections

### 12-2 Towbar (cont.)

#### Reasons for rejection

5. A 50 mm or 1<sup>7</sup>/<sub>8</sub>-inch-diameter tow ball for towing a light trailer is not marked with:
  - a) the ball size, that is 50 mm or 1<sup>7</sup>/<sub>8</sub> 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 Armed Forces 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 150 mm of the mounting points, or
  - d) is cracked or distorted, or
8. The towbar coupling (towball):
  - a) is not securely attached, or
  - b) is worn beyond manufacturer's specifications, or
  - c) is significantly corroded, distorted or cracked, or
  - d) has a nut that is missing or significantly corroded.

#### Modification and repair

9. A modification or repair affects the towbar and:
  - a) is not excluded from the requirements for HVS certification (**Table 12-2-2**), or
  - b) is not for the purpose of law enforcement or the provision of emergency services, or
  - c) is missing proof of HVS certification, ie:
    - i. the vehicle was modified or repaired before the last CoF inspection and no LANDATA record has been entered, or
    - ii. the vehicle was modified or repaired since the last CoF inspection and no valid LT400 form from an HVS certifier of category HVET, HVMT or HVIT has been presented.

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**Table 12-2-1. Minimum information on towbar certification label/plate**

NZS 5467	NZS 5446	NZS 5446 as amended by Appendix A to Policy Statement 5
Manufacturer's name or trademark Maximum towed mass (braked and unbraked) Model (vehicle make, model or part number) Maximum vertical load Certifier or agency approval number	Company or agency name Certifying engineer Vehicle VIN or chassis number Maximum towed mass (kg) Expiry date (if certified after August 1991)	Manufacturer's name Towbar model number or part number Rating - maximum towed mass (MTM) in kg (maximum of 2000 kg)

**Table 12-2-2. Requirements for HVS certification**

HVS certification is required	HVS certification is not required
1. Fitting of a towbar	1. A replacement bolt-on 50 mm 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).

**Note 1** Definitions

**Coupling** means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; does not include a structural member of the towing or towed vehicle (for example fifth wheel, hook, pin, ball or socket type).

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

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



## Towing connections

### 12-2 Towbar

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Passenger Service Vehicles 1999
- St281192 – Exemption from Specified Requirements of the PSV Construction Regulations 1978
- New Zealand Standard 5467: 1993, Code of Practice for Light Trailers
- Ministry of Transport Policy Statement 5

##### Mandatory equipment

1. A towbar that is fitted to a PSV must comply with the requirements in **Table 12-2-3**.

##### Condition and Performance

2. Refer to general vehicle pages.

#### Reasons for rejection

##### Mandatory equipment

1. A towbar that is fitted to a PSV does not show evidence of meeting the requirements of **Table 12-2-3**.

##### Condition and Performance

2. Refer to general vehicle pages.
3. A certification plate is:
  - a) illegible, or
  - b) has details that do not match the vehicle, or
  - c) has obvious signs of tampering.

**Table 12-2-3. Requirements for certification**

Towbar/vehicle date	Evidence of certification
Vehicle entered service as a PSV in New Zealand before 1 September 1999 and fitted with a towbar before 1 September 1999	<ol style="list-style-type: none"> <li>1. A towbar fitted to a class MA vehicle is identified as supplied by the vehicle manufacturer.</li> <li>2. For any vehicle, a permanently attached plate, indelibly marked with:               <ol style="list-style-type: none"> <li>a) manufacturer's name, and</li> <li>b) towbar model number or part number, and</li> <li>c) rating – maximum towed mass (MTM)                   <ol style="list-style-type: none"> <li>i. not exceeding 2000 kg if vehicle class is MA, MB, MC or MD1, or</li> <li>ii. not exceeding 3500 kg if vehicle class is MD2.</li> </ol> </li> </ol> </li> </ol> <p><b>Note</b> A towbar that doesn't meet 1. or 2. above must be identified for private use only, for example on the checksheet.</p>
Vehicle entered service as a PSV in New Zealand on or after 1 September 1999 and fitted with a towbar, or vehicle entered service as a PSV in New Zealand before 1 September 1999 and fitted with a towbar on or after 1 September 1999.	<ol style="list-style-type: none"> <li>1. A towbar fitted to a class MA vehicle is identified as supplied by the vehicle manufacturer.</li> <li>2. For any vehicle, a permanently attached plate, indelibly marked with:               <ol style="list-style-type: none"> <li>a) manufacturer's name or trademark which clearly identifies the agency or person who has built the towbar, and</li> <li>b) the maximum towed mass (MTM) not exceeding 3500 kg, and</li> <li>c) the maximum vertical load applied at the towing ball, and</li> <li>d) vehicle make, model or part number which identifies the vehicle(s) for which the towbar has been designed.</li> </ol> </li> </ol>

**Note** An unrated towbar may be assessed, rated and plated by an appropriately qualified engineer (does not have to be an engineer appointed by the NZTA).



## Towing connections

### 12-2 Towbar

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Passenger Service Vehicles 1999
- St281192 – Exemption from Specified Requirements of the PSVCR 78
- New Zealand Standard 5467: 1993, Code of Practice for Light Trailers
- Ministry of Transport Policy Statement 5

##### Mandatory equipment

1. A towbar that is fitted to a PSV must comply with the requirements in **Table 12-2-4**.

##### Condition and performance

2. Refer to heavy vehicle pages.

##### Modification and repair

3. Refer to heavy vehicle pages.

#### Reasons for rejection

##### Mandatory requirement and equipment

1. Refer to heavy vehicle pages.
2. A towbar that is fitted to a PSV does not show evidence of meeting the requirements of **Table 12-2-4**.

##### Condition and performance

3. Refer to heavy vehicle pages.
4. A certification plate is:
  - a) illegible, or
  - b) has details that do not match the vehicle, or
  - c) has obvious signs of tampering.

##### Modification and repair

5. Refer to heavy vehicle pages.

**Table 12-2-4. Certification evidence required**

Towbar/vehicle date	Evidence of certification
Vehicle entered service as a PSV in New Zealand before 1 September 1999 and fitted with a towbar before 1 September 1999.	Permanently attached label or plate, indelibly marked with: <ol style="list-style-type: none"> <li>a) manufacturer's name, and</li> <li>b) towbar model number or part number, and</li> <li>c) rating – maximum towed mass (MTM) not exceeding 3500 kg.</li> </ol>
Vehicle entered service as a PSV in New Zealand on or after 1 September 1999 and fitted with a towbar, or vehicle entered service as a PSV in New Zealand before 1 September 1999 and fitted with a towbar on or after 1 September 1999.	Permanently attached label or plate, indelibly marked with: <ol style="list-style-type: none"> <li>a) manufacturer's name or trademark which clearly identifies the agency or person who has built the towbar, and</li> <li>b) the maximum towed mass (MTM) not exceeding 3500 kg, and</li> <li>c) the maximum vertical load applied at the towing ball, and</li> <li>d) vehicle make, model, or part number which identifies the vehicle(s) for which the towbar has been designed, and</li> <li>e) certifier or agency approval number.</li> </ol>



## Towing connections

### 12-3 Drawbeam

#### Summary of legislation

##### Applicable legislation

- Land Transport Rule: Vehicle Dimensions and Mass 2002
- Land Transport Rule: Heavy Vehicles 2004
- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Vehicle Towing Connections: Drawbar Trailers
- New Zealand Standard 5446: 2007, Heavy Vehicle Towing Connections – Drawbeams and Drawbars

##### Mandatory requirement

1. A drawbeam fitted to a vehicle used in a combination, (other than a tractor to which section 12-4 applies or a recovery service vehicle) must comply and be certified to NZS 5446.

##### Mandatory equipment

2. A hook- or pin-type coupling must have an effective locking device and a separate means of retaining this device in the locked position.

##### Condition and performance

3. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operation for which the vehicle was constructed.
4. A drawbeam used for towing a full trailer must not be sliding or adjustable.
5. Locking of the coupling must be readily verifiable by visual inspection.

##### Modification and repair

6. A modification or repair that affects the drawbeam must be inspected and certified by an HVS certifier of category HVET, HVMT or HVIT.

#### Reasons for rejection

##### Mandatory requirement

1. A drawbeam fitted to a heavy vehicle, other than a tractor to which section 12-4 applies or a recovery service vehicle, does not have evidence of certification to NZS 5446, ie

- a) the drawbeam was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,

**Note** Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or

- b) the drawbeam was fitted after the last CoF inspection and

- i. a valid LT400 form has not been presented, or
- ii. the HVS certifier was not of category HVET, HVMT, HVIT, or

- c) there is no valid certification label or plate attached to the vehicle as required in **Table 12-3-1**.

2. The certification label or plate:

- a) is not indelible, or
- b) is illegible, or
- c) is not complete, or
- d) is not attached to the drawbeam in an easily visible position, or
- e) does not match the vehicle, or
- f) has obvious signs of tampering, or
- g) has expired.

##### 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

## Towing connections

### 12-3 Drawbeam (cont.)

#### Reasons for rejection

- 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. The towing pin diameter is worn to less than (**Note 1**):
- a) 36.4 mm for a 40 mm pin, or
  - b) 46.4 mm for a 50 mm pin.
6. A towing hook, pin or ball has been repaired or welded.
7. 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.
8. A drawbeam is sliding or adjustable.
9. Locking of the coupling is not readily verifiable by visual inspection.
10. A coupling locking device is in such condition that it is not effective.

#### Modification and repair (**Note 4**)

11. 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:
    - i. the vehicle was modified or repaired 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
    - ii. the vehicle was modified or repaired since the last CoF inspection and no valid LT400 form from a HVS Certifier of category HVET, HVMT or HVIT has been presented.

**Note 1** Manufacturer's wear limits may be used instead of those stated.

**Note 2** Definitions

**Coupling** means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; it does not include a structural member of the towing or towed vehicle (eg fifth wheel, hook, pin, ball or socket type).

**Drawbeam** means that part of the towing vehicle to which a coupling is fitted to enable a heavy trailer to be connected; it includes the attached coupling.

**Full trailer** means a trailer with two axle sets, the foremost of which is steered by a drawbar; includes a semi-trailer with non-steering axles coupled to a converter dolly.

**Note 3** Some special-use vehicles, such as fertiliser trucks and trailers, are fitted with towing connections where the towing eye is fitted to the towing vehicle and the pin- or hook-type coupling to the trailer. This is permitted. In these cases, please refer to heavy trailer pages of section 8-3 for wear limits and other relevant requirements.

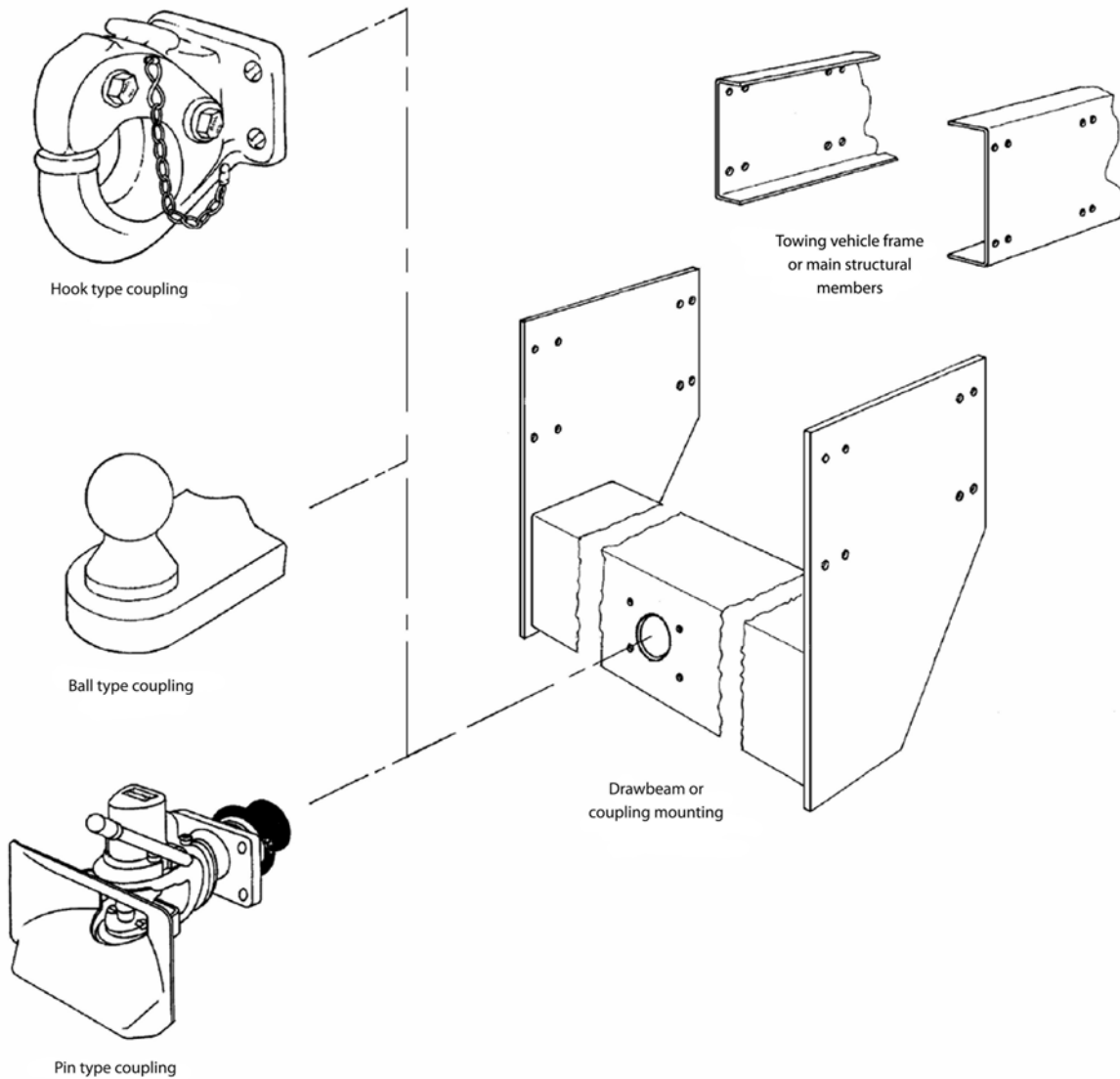
**Note 4** A towing connection that was certified to New Zealand standard 5446: 1987 (superseded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

**Table 12-3-1. Minimum information on drawbeam certification label/plate**

NZS 5446: 1987	NZS 5446: 2007
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

## Towing connections

## 12-3 Drawbeam (cont.)



**Figure 12-3-1. Drawbeam components**

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## Towing connections

## 12-4 Heavy tractor towing connections

### Summary of legislation

#### Applicable legislation

- Land Transport Rule: Heavy Vehicles 2004

#### Mandatory and permitted equipment

1. A tractor may be fitted with towing connections, including three-point agricultural linkages.
2. A tractor with a towing connection other than a three-point linkage must have one or two points for attaching trailer safety chains that each has a strength of at least twice the maximum mass of any vehicles that may be towed by the tractor by means of that towing connection.

#### Condition

3. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operations for which the vehicle was constructed.

### Reasons for rejection

#### Mandatory and permitted equipment

1. A tractor with a towing connection other than a three-point linkage does not have one or two attachment points to which safety chains from a trailer coupling can be securely attached.

#### Condition

2. A towing connection component including a safety chain attachment point is:
  - a) damaged, deformed, cracked or has significantly deteriorated, or
  - b) worn beyond manufacturer's specifications, or
  - c) not securely attached, or
  - d) missing, or
  - e) not mounted in accordance with manufacturer's specifications.
3. A coupling mechanism or safety locking device does not:
  - a) operate smoothly or effectively, or
  - b) fasten securely.

#### Note 1 Definitions

**Heavy tractor** means a motor vehicle (other than a traction engine) with a gross vehicle mass exceeding 3500 kg constructed principally for towing an agricultural trailer or powering agricultural implements. This definition applies to towing connections only.

**Towing connection** means the combination of components that enables one vehicle to tow or be towed by another vehicle; it includes a towbar, drawbar, drawbeam and coupling.

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



## Towing connections

## 12-5 Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer)

### 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
- New Zealand Standard 5446: 1987, Code of Practice for Heavy Motor Towing Connections – Drawbar Trailers
- New Zealand Standard 5446: 2007, Code of Practice for Heavy Motor Towing Connections – Drawbeams and Drawbars

#### Mandatory equipment

1. A vehicle that is constructed to tow a semi-trailer must be fitted with either:
  - a) a 50 mm-diameter fifth wheel, or
  - b) a 90 mm-diameter fifth wheel, or
  - c) a ball-type coupling certified to NSZ 5446 and be operated as part of a dedicated combination.
2. A 50 mm-diameter fifth wheel must comply with New Zealand Standard 5450: 1989.
3. A 90 mm-diameter fifth wheel installed before 1 April 2005 must comply with New Zealand Standard 5450: 1989.
4. A 90 mm-diameter fifth wheel installed on or after 1 April 2005 and before 29 December 2007 must comply with:
  - a) Australian Standard 1773-1996, and
  - b) Australian Standard 1771-1996, and
  - c) Australian Standard 2174-1994.
5. A 90 mm-diameter fifth wheel installed on or after 29 December 2007 must comply with:
  - a) AS/NZS 4968, and
  - b) AS 2174.
6. A vehicle that is fitted with a 90 mm-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, '90 mm fifth wheel' where '90' must not be less than 60 mm high.
7. A rigid fifth wheel fitted to a vehicle must be installed and maintained in accordance with the fifth-wheel manufacturer's instructions.

### Reasons for rejection

#### Mandatory equipment

1. A fifth wheel is not designed to fit a 50 mm or 90 mm kingpin.
2. A fifth wheel or ball-type coupling fitted to a heavy vehicle does not have evidence of certification (unless excepted in **Table 12-5-1**), ie:
  - a) the coupling was fitted before the last CoF inspection, and after 1 January 1997, and no LANDATA record has been entered,
 

**Note** Before 1 January 1997 certification was required but for inspection purposes the LANDATA record need not be checked

or
  - b) the coupling was fitted after the last CoF inspection and
    - i. a valid LT400 form has not been presented, or
    - ii. the HVS certifier was not of category HVET, HVIT or HVMT.
3. A 50 mm-diameter fifth wheel, other than a rigid fifth wheel, has not been certified to NZS 5450: 1989.
4. A 90 mm-diameter fifth wheel, other than a rigid fifth wheel, has not been certified to one of the following:
  - a) if fitted before 1 April 2005, NZS 5450
  - b) if fitted on or after 1 April 2005, both AS 2174 and AS/NZS 4968 (**Note 1**).
5. A rigid fifth wheel has not been certified to manufacturer's specifications.
6. A vehicle that is fitted with a 90 mm-diameter fifth wheel does not have '90 mm fifth wheel', where '90' is at least 60 mm 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' (LTSA4085A form) is:
  - a) not presented, or

## Towing connections

## 12-5 Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer) (cont.)

### Condition and performance

8. Towing connection components fitted to a vehicle must ensure that a secure connection can be maintained between the towing and towed vehicles under all conditions of loading and operations for which the vehicle was constructed.

### Modification and repair

9. A modification or repair that affects a coupling must be inspected and certified by a HVS Certifier of category HVET, HVMT or HVIT, unless the vehicle:
- excepted from the requirement for HVS certification (**Table 12-5-1**), and
  - has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.

## Reasons for rejection

- incomplete (**Note 2**), or
  - not current, ie more than:
    - 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
    - 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:
- is not certified to NZS 5446, or
  - does not have a valid certification label or plate attached to the vehicle as required in **Table 12-5-2**, or
  - is not part of a dedicated combination.
9. A required certification label or plate:
- is not indelible, or
  - is illegible, or
  - is not complete, or
  - is not attached to the vehicle in an easily visible position, or
  - does not match the vehicle, or
  - has obvious signs of tampering, or
  - has expired.

### Condition and performance (**Note 3**)

10. A coupling or its mounting:
- is not securely attached, or
  - bolt or nut is missing, significantly corroded or not suitable, or
  - is cracked, distorted or significantly corroded or has deteriorated, or

## Reasons for rejection

- d) has corrosion damage within 150 mm of the mounting points, or
  - e) pivot is seized, worn beyond manufacturer's specifications, or not securely attached, or
  - f) is worn beyond manufacturer's specifications.
11. The fifth wheel release mechanism:
- a) is not in good condition, eg the handle is bent or damaged, or
  - b) does not operate freely (check only if presented without trailer attached).
12. The fifth wheel locking mechanism:
- a) is not in good condition, eg jaws are worn beyond manufacturer's specifications or out of adjustment, or
  - b) does not operate freely (check only if presented without trailer attached).

### Modification and repair (Note 4)

13. A modification or repair affects the coupling and:
- a) is not excepted from the requirements for HVS certification (**Table 12-5-1**), or
  - b) the modification is not for the purpose of law enforcement or the provision of emergency services, or
  - c) is missing proof of HVS certification, ie:
    - i. the vehicle was modified or repaired before the last CoF inspection and no LANDATA record has been entered, or
    - ii. the vehicle was modified or repaired since the last CoF inspection and no valid LT400 form from an HVS certifier of category HVET, HVMT or HVIT has been presented.

## Towing connections

## 12-5 Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer) (cont.)

**Table 12-5-1. Requirements for HVS certification**

HVS certification is required	HVS certification is not required
<ol style="list-style-type: none"> <li>1. Fitting of a coupling, other than a direct bolt-on replacement.</li> <li>2. Modification or repair of a coupling, except when this is not required in the right-hand column.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fifth wheel or ball-type coupling that is a direct bolt-on replacement.</li> <li>2. Any modification or repair likely to have been carried out before 1 January 1997 (modifications and repairs before this date required certification but for inspection purposes the LANDATA record need not be checked).</li> <li>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).</li> </ol>

**Table 12-5-2. Minimum information on certification label/plate**

NZS 5446: 1987	NZS 5446: 2007
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

**Note 1** AS/NZS 4968 supersedes AS 1773 and AS 1771.

**Note 2** Where the service history is incomplete, the CoF inspector must note this on the CoF checksheet, but the vehicle is not required to be failed for this reason alone.

**Note 3** Where a vehicle is presented in combination, the vehicles do not have to be separated, but a thorough visual inspection as far as practicable must be carried out.

**Note 4** A towing connection that was certified to New Zealand standard 5446: 1987 (superseded) before November 2007 may continue to comply with and be certified to that standard until the towing connection is modified.

**Note 5** While not included as an inspection item, a vehicle may not be towed using a fifth wheel coupled to another fifth wheel.

**Note 6** Definitions

**Fifth wheel** means a device fitted to a vehicle to enable a semi-trailer to be connected to it by means of a kingpin so that the semi-trailer may be towed.

**Coupling** means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; it does not include a structural member of the towing or towed vehicle (eg fifth wheel, hook, pin, ball or socket type).

**Dedicated combination** means a combination of vehicles certified for use in combination where both vehicles are affixed with a plate clearly and indelibly marked with the VIN or chassis number of the other vehicle (the plate is fitted by the HVS certifying 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.

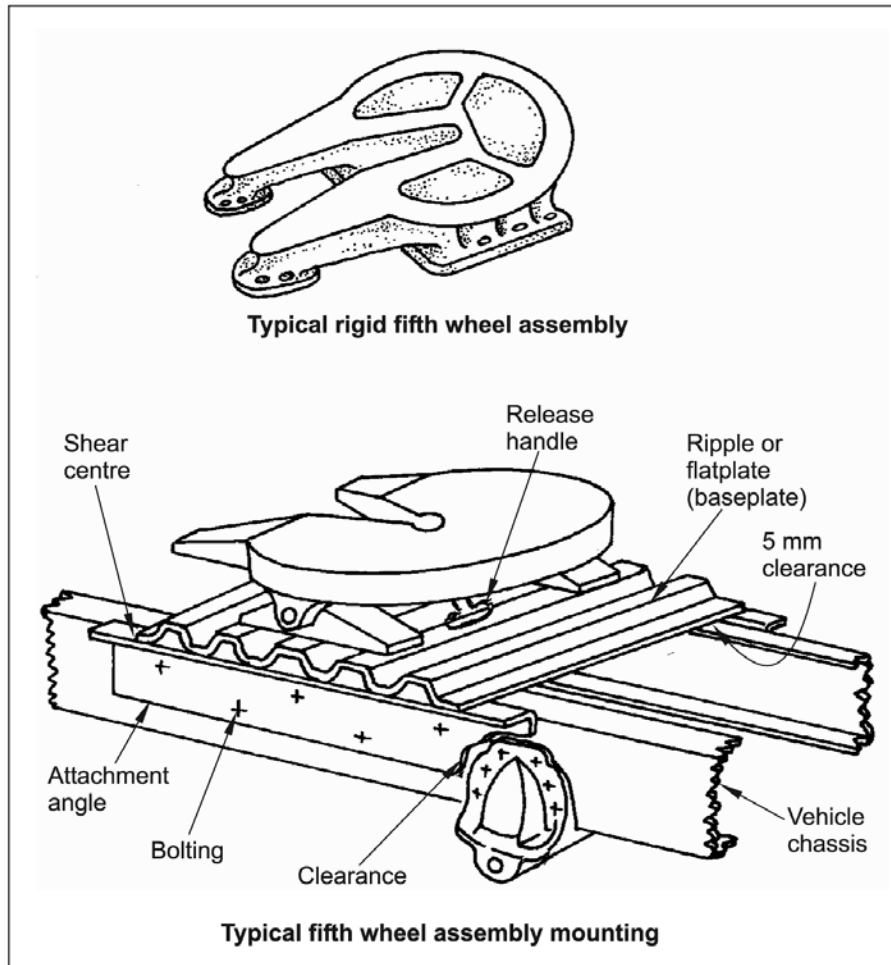



Figure 12-5-1. Fifth wheels

**Towing connections** **12-5 Heavy vehicle fifth wheel or ball coupling (for towing a semi-trailer) (cont.)**



**NZ TRANSPORT AGENCY**  
WAKA KOTAHI

**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)

Statement number *(operator should allocate a number)*

Vehicle Make	Vehicle Model
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
Vehicle Registration Number	Vehicle Chassis/VIN Number
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
Fifth Wheel Make	Fifth Wheel Model
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

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 the fifth wheel assembly in the last 6 months.

Date	Hubodometer reading	Service inspection carried out by: <i>(Name of Service Company)</i>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>

**Service Technician to complete**

Last service inspection carried out by:

Name of Technician	Technician's Signature
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
Name of Service Company	
<input style="width: 95%;" type="text"/>	

**Operator's Declaration**

I,   
*(Print full name)*

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
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

New Zealand Government

Testing Station Copy

4085A-42651 10/08

Figure 12-5-4. 4085A form