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 Armed 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 Armed Forces 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.
3. 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.

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.

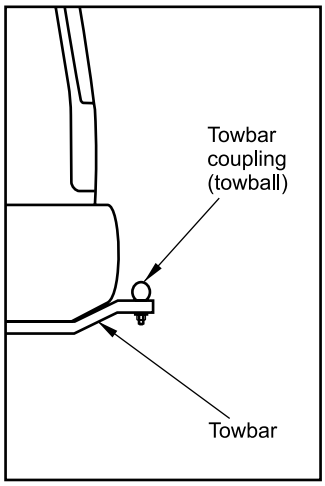

Figure 12-1-1. Towbar and towbar coupling

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 Armed Forces
   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 a HVS certifier of category HVET, HVMT or HVIT, unless the vehicle:
   a) 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 1/1/1997, and no LANDATA record has been entered. (Note: Before 1/1/1997 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.

Reasons for rejection

5. A 50 mm or 1 7/8 inch diameter tow ball for towing a light trailer is not marked with:
   a) the ball size, ie 50 mm or 1 7/8 inch, or
   b) the ball rating in kg.

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) 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 a HVS certifier of category HVET, HVMT or HVIT has been presented.

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 trade mark 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. Replacement bolt-on 50 mm or 1 7/8 inch diameter towball 2. Any modification or repair likely to have been carried out before 1/1/1997. (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 VI 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).

Note 1: Definitions:

Coupling means that part of a vehicle that is specifically designed to enable it to be connected to another vehicle; and 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 3500 kg or less.

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

Summary of legislation

Applicable legislation

- Land Transport Rule: Passenger Service Vehicles 1999.
- St281192 – Exemption from specified requirements of the PSV Construction Regs 1978.
- New Zealand Standard 5467: 1993, Code of practice for light trailers.
- Ministry of Transport Policy Statement No. 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 NZ before 1/9/1999 and fitted with a towbar before 1/9/1999	1. A towbar fitted to an MA class vehicle is identified as supplied by the vehicle manufacturer. 2. For any vehicle, a permanently attached plate, indelibly marked with: a) manufacturer's name, and b) towbar model number or part number, and c) rating – maximum towed mass (MTM) i. not exceeding 2000 kg if vehicle class is MA, MB, MC or MD1, or ii. not exceeding 3500 kg if vehicle class is MD2. Note: An uncertified towbar must be identified for private use only, eg on the checksheet.
Vehicle entered service as a PSV in NZ on or after 1/9/1999 and fitted with a towbar, or vehicle entered service as a PSV in NZ before 1/9/1999 and fitted with a towbar on or after 1/9/1999.	1. A towbar fitted to an MA class vehicle is identified as supplied by the vehicle manufacturer. 2. For any vehicle, a permanently attached plate, indelibly marked with: a) manufacturer's name or trade mark which clearly identifies the agency or person who has built the towbar, and b) the maximum towed mass (MTM) not exceeding 3500 kg, and c) the maximum vertical load applied at the towing ball, and d) vehicle make, model, or part number which identifies the vehicle(s) for which the towbar has been designed.

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 No. 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 NZ before 1/9/1999 and fitted with a towbar before 1/9/1999	Permanently attached label or plate, indelibly marked with: a) manufacturer's name, and b) towbar model number or part number, and c) rating – maximum towed mass (MTM) not exceeding 3500 kg.
Vehicle entered service as a PSV in NZ on or after 1/9/1999 and fitted with a towbar, or vehicle entered service as a PSV in NZ before 1/9/1999 and fitted with a towbar on or after 1/9/1999.	Permanently attached label or plate, indelibly marked with: a) manufacturer's name or trade mark which clearly identifies the agency or person who has built the towbar, and b) the maximum towed mass (MTM) not exceeding 3500 kg, and c) the maximum vertical load applied at the towing ball, and d) vehicle make, model, or part number which identifies the vehicle(s) for which the towbar has been designed, and e) certifier or agency approval number.

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 a 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 1/1/1997, and no LANDATA record has been entered (Note: Before 1/1/1997 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 significantly deteriorated, or
   b) worn beyond manufacturer's specifications, or
   c) not securely attached, or

Reasons for rejection

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 a condition so 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 1/1/1997, and no LANDATA record has been entered (Note: Before 1/1/1997 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; and does not include a structural member of the towing or towed vehicle (examples: fifth wheel, hook, pin, ball or socket type).

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

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