Correct as at 5th June 2026. It may be superseded at any time.

Extract taken from: Heavy vehicle specialist certification > Load retention

10 Load retention

10-1 Load retention

Certifier categories: **HVEA** | **HVAD**

Reasons for rejection

1. A load anchorage has not been manufactured or fitted according to the approved designs from NZS 5444 when being certified by an HMAD.

2. A load anchorage has not been manufactured or fitted according to the Certificate of Design Compliance when being certified by an HMAD (refer to **Technical bulletin 5**).

3. The Statement of Design Compliance was not signed by an HV engineering certifier.

4. A load anchorage does not comply with the requirements of NZS 5444.

5. The condition of the load anchorage or its attachment has been affected by corrosion or weakening of its structure that is apparent by visual inspection so that the load anchorage is unsafe.

6. A vehicle that is constructed for the purpose of transporting timber logs has not been fitted with a cab-guard, if that vehicle has a cab.

7. A cab-guard and its attachment to a vehicle's chassis is not of adequate strength to protect the cab of the vehicle from forces that result from load impact during:

    a) loading or unloading of the vehicle, and

    b) emergency braking of the vehicle at 1g.

8. A cab-guard has not been fitted to a vehicle's chassis in a way that:

    a) does not adversely affect the strength and durability of the chassis, and

    b) does not cause the chassis to be damaged when the cab-guard is subjected to the forces in requirement 3.

9. A cab-guard attached to a vehicle's chassis:

    a) is not at least as wide as the cab of the vehicle, or

    b) is not at least as high as the cab of the vehicle, or

    c) has apertures of a shape and size that could allow any forward-moving portion of the vehicle's load to pass through the cab-guard.

10. A headboard, sideboard or tailboard fitted to a vehicle for the purpose of restraining a load on that vehicle is of inadequate strength to withstand, without incurring permanent deformation, a horizontal force uniformly distributed over its vertical area equal to:

a) for lashed loads:

i. for headboards, half the weight of the payload capacity, and

ii. for sideboards and tailboards, a quarter of the weight of the payload, and

b) for unlashed loads that are baulked or that occupy the entire deck of the vehicle:

i. for headboards, the weight of the payload capacity, and

ii. for sideboards and tailboards, half the weight of the payload capacity.

11. A headboard, sideboard or tailboard is fitted to a vehicle for the purpose of restraining a load on that vehicle in such a way that the parts of the vehicle to which it is attached cannot withstand the forces imposed by the headboard, sideboard or tailboard without incurring permanent deformation.

12. Load securing equipment that is fitted to a vehicle cannot ensure that the load can be securely contained on the vehicle under all conditions of loading and operation for which the vehicle was constructed.

13. A rating for a load anchorage hook is less than 600kg and (Note 10) applies.

14. A curtain-sided body that is constructed to secure a load and is fitted to a vehicle does not have a curtain that

a) has a manufacturer's load rating appropriate for all conditions of loading and operation of the vehicle, and

b) is clearly marked, in a position on the vehicle that is readily accessible for inspection purposes, with:

i. the manufacturer's load rating, in kilograms per metre, and

ii. the expiry date of the curtain as determined by the curtain manufacturer.

15. The load rating of the curtain anchorage system, including tie down rail, is inadequate.

16. For an imported vehicle fitted with load retention equipment, any welding of load retention equipment does not comply on visual inspection with section 6 of AS/NZS 1554.1.

17. For an imported vehicle fitted with load anchorages, where compliance of the load anchorages is established by calculation and the welder is unknown or unqualified, the weld design stress exceeds 75% of the permissible weld design stresses.

18. The condition or construction of the vehicle is such that the load anchorage restraint forces cannot be adequately transmitted to the basic vehicle structure.

19. The means by which the body is attached to the chassis of a vehicle manufactured from 1 September 2005 is not designed and constructed so that the stresses in requirement 21 on the attachment do not exceed 60% of the yield stress of the material from which the attachment is made.

20. A stockcrate retention device manufactured before 1 January 1994 and fitted to a vehicle with a gross vehicle mass of 6000 kg or more does not comply with section 5 of NZS 5413, Code of Practice for the Manufacture and Use of Stockcrates on Heavy Vehicles.

21. A stockcrate retention device and a monocoque stock vehicle manufactured and fitted to a vehicle of gross vehicle mass of 6000kg or more on or after 1 January 1994, does not comply with NZS 5413, Code of Practice for the Manufacture and Use of Stockcrates on Heavy Vehicles.

22. Not all modifications or repairs to the load anchorages have been certified.

23. A passenger service vehicle on which a roof rack is fitted does not comply with the **PSV Rule** section 7.3

24. When the roof rack is rated by the manufacturer who also supplies mounting instructions, the roof rack on the PSV has not been installed according to these instructions.

25. The roof rack when fitted to a passenger service vehicle does not have a sign or plate on the left-hand side stating:

a) the purpose of the roof rack, if other than for general baggage, and

b) the maximum weight it is allowed to carry, and

c) the manufacturer of the roof rack, and

d) either of the following:

i. identification of the passenger service vehicle to which it is fitted (make, model and registration number, or VIN or chassis number), or

ii. if rated and certified either by the vehicle manufacturer or by a person authorised by the NZTA to do so, for a vehicle model, the approval for that vehicle model.

26. A tipper body that includes load anchorage points does not have a body locking device that complies with the load requirements of NZS 5444 (Note 11).

Note 1

Attachment points on stockcrates must be constructed to the requirements of NZS 5413.

Note 2

If J Hooks are used then the coaming rail must be certified to NZS 5444 to allow J hooks.

Note 3

NZS 5413: 1993 also allows other types of attachment provided they comply with NZS 5444.

Note 4

In enclosed bodied vehicles designed to carry freight and use tie-down points to secure the load, those points must be designed and certified to NZS 5444 as load anchors.

Note 5

Any rope rails and droppers fitted as part of a curtain-sider installation must be certified to NZS 5444.

Note 6

The vehicle must have attached to the load platform an indelible label identifying the following:

a) Compliance Certificate Number

b) Manufacturer or Certifier

c) Vehicle Chassis or VIN Number

d) The type of Load Anchorages

e) The number of Load Anchorages fitted

f) Rating (tonnes).

Note 7

Where J hooks are being specifically certified for use for other than stockcrates the label may be attached to the bin or bulk container being restrained.

Note 8

SRT must be recalculated if a roof rack has been fitted after original certification (section 5.2).

Note 9

No person shall operate a motor vehicle, which is affected by corrosion or weakening of its structure, that is apparent by visual inspection, so that the vehicle is unsafe to operate (regulation 80).

Note 10

A vehicle that has been designed to carry a specific load, such as a skeletal container vehicle or a car transporter, may have a load anchorage rating applicable to that load and be exempted from requirement 1.2.8 of NZS 5444.

Note 11

Proprietary anti-rattle devices are unlikely to be suitable for use as a body lock in most cases.

Summary of legislation

Applicable references

- Truck Loading Code
- NZS 5413 1983, Code of Practice for Manufacture and Use of Stockcrates on Heavy Vehicles
- NZS 1554, Welding
- NZS 5444, Load Anchorage Points for Heavy Vehicles
- AS 3990, Mechanical Equipment – Steelwork
- AS/NZS 2980: Qualification of welders for fusion welding of steels – Additional requirements for Australia and New Zealand
- AS/NZS ISO9606.1: Qualification testing of welders – Fusion Welding
- **Technical bulletin 10: Welding in the transport industry**

Applicable legislation

- **Land Transport Rule: Heavy Vehicles 2004**
- **Land Transport Rule: Passenger Service Vehicles 1999**
- *New Zealand Gazette*, 26 April 2001, No 43, page 957.

Land Transport Rule: Heavy Vehicles

Cab-guards (section 3.3)

1. A vehicle that is constructed for the purpose of transporting timber logs must be fitted with a cab-guard, if that vehicle has a cab.

2. A cab-guard and its attachment to a vehicle's chassis must be of adequate strength to protect the cab of the vehicle from forces that result from load impact during:

a) loading or unloading of the vehicle, and

b) emergency braking of the vehicle at 1g.

3. A cab-guard must be fitted to a vehicle's chassis in a way that:

a) does not adversely affect the strength and durability of the chassis, and

b) does not cause the chassis to be damaged when the cab-guard is subjected to the forces in requirement 2.

4. A cab-guard attached to a vehicle's chassis:

a) must be at least as wide as the cab of the vehicle, and

b) must be at least as high as the cab of the vehicle, and

c) must not have apertures of a shape and size that could allow any forward-moving portion of the vehicle's load to pass through the cab-guard.

Headboards, sideboards, and tailboards (section 5.6)

5. 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, without incurring permanent deformation, a horizontal force uniformly distributed over its vertical area equal to:

a) for lashed loads:

i. for headboards, half the weight of the payload capacity, and

ii. for sideboards and tailboards, a quarter of the weight of the payload, and

b) for unlashed loads that are baulked or that occupy the entire deck of the vehicle:

i. for headboards, the weight of the payload capacity, and

ii. for sideboards and tailboards, half the weight of the payload capacity.

6. 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 imposed by the headboard, sideboard or tailboard without incurring permanent deformation.

7. A headboard fitted to a vehicle in New Zealand on or after 1 March 2006 must have a plate, clearly displayed in a visible and readily accessible position, marked with:

a) the headboard manufacturer's name, and

b) the headboard manufacturer's load rating in kilograms rounded to the nearest 100kg.

8. The width of the headboard should be at least equal to the width of the cab and preferably as wide as the deck.

9. The height of the headboard should be at least equal to the height of the cab.

10. Headboards should be of solid construction without apertures.

11. A headboard, tailboard or sideboard higher than 0.7m above the the main load carrying platform, the horizontal forces acting on them may be uniformly distributed over the vertical areas bound by a horizontal line no higher than 0.7m above the main load carrying platform and, if applicable, any mezzanine floor.

Load securing equipment (section 5.1)

12. A vehicle that is constructed to transport a load must be equipped with load securing equipment.

13. 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.

Containment by a vehicle body (section 5.2)

13. The body of a vehicle, that is constructed to contain goods without the use of lashings, chains or other devices, must be specifically designed to contain that type and size of load.

14. A tank body for transporting bulk liquids must, if necessary:

a) have sufficient transverse baffles, or similar devices, to prevent excessive longitudinal load-shifting that could adversely affect the tractive or braking performance of the vehicle; and

b) have a cross-section shape, longitudinal baffles or similar devices, to prevent excessive transverse load-shifting that could destabilise the vehicle.

Curtain-sided bodies (section 5.4)

15. A curtain-sided body that is constructed to secure a load and is fitted to a vehicle must have a curtain and a curtain anchorage system that:

a) has a manufacturer’s load rating appropriate for all conditions of loading and operation of the vehicle, and

b) is clearly marked, in a position on the vehicle that is readily accessible for inspection purposes, with:

i. the manufacturer’s load rating, in kilograms per metre.

16. The load rating of the curtain and curtain anchorage system must be established as the maximum load with which the following conditions are complied:

a) relative to the plane in which the curtain lies when it is secured but without load placed against it, the maximum sideways deflection of the curtain does not exceed 100mm, at any point, when the load is subjected to a uniform and sustained lateral acceleration of 0.5g, and

b) the curtain and curtain anchorage system do not fail when the load is subjected to a uniform and sustained lateral acceleration of 1g.

17. The load rating of the curtain and curtain anchorage system may also be established by a method developed by a heavy vehicle industry representative group and approved by the Agency by means of a notice in the *Gazette*.

Load anchorage points (section 5.5)

18. Unless the body of the vehicle is designed to contain the load without other load security devices, or the vehicle is fitted with a stockcrate, or the vehicle is a curtain sider that is load rated, a vehicle must have load anchorage points that comply with NZS 5444, Load Anchorage Points for Heavy Vehicles.

19. Unmodified load anchorage points fitted to an imported vehicle must comply with NZS 5444, Load Anchorage Points for Heavy Vehicles, except that, if compliance is established by calculation:

a) the welding is not required to be carried out by a qualified welder, provided the welding is satisfactory as established by visual inspection by an HVS Certifier to comply with section 6 of AS/NZS 1554.1 and

b) the weld design stresses permissible according to the standard are reduced by 25%.

Vehicle body attachment (section 3.2)

20. The means by which a body is attached to the chassis of a vehicle manufactured on or after 1 October 2005 must be designed and constructed so that the stresses on the attachment when calculated in accordance with requirement 21 below do not exceed 60% of the yield stress of the material from which the attachment is made.

21. The stresses in requirement 20 above must be calculated under each of the following loading conditions when the forces are applied at the approximate centre of gravity of the load:

a) a longitudinally-acting force, equivalent to twice the combined weight of the payload capacity and the body mass,

b) a downward-acting force, equivalent to twice the combined weight of the payload capacity and the body mass,

c) a transversely-acting force, equivalent to the combined weight of the payload capacity and the body mass,

d) an upward-acting force, equivalent to the combined weight of the payload capacity and the body mass.

Stockcrates (section 5.3)

22. A stockcrate retention device fitted to a vehicle with a gross vehicle mass of 6000 kg or more must comply with section 5 of NZS 5413, Code of Practice for the Manufacture and Use of Stockcrates on Heavy Vehicles.

23. Stockcrate anchorage points fitted to the deck of a vehicle must comply with *New Zealand Standard 5444, Load Anchorage Points for Heavy Vehicles*.

Land Transport Rule: Passenger Service Vehicles 1999

Roof racks (section 7.3)

24. Fitting a roof rack to a passenger service vehicle is a modification.

25. The roof rack must:

a) be fitted and rated as appropriate for that particular make and model of passenger service vehicle, or

b) be rated and certified by an HV certifier and fitted in accordance with that authorised person's instructions.

28. The roof rack must have a sign or plate on the left-hand side stating:

a) the purpose of the roof rack, if other than for general baggage, and

b) the maximum weight it is allowed to carry, and

c) the manufacturer of the roof rack, and

d) either of the following:

i. identification of the passenger service vehicle to which it is fitted (make, model and registration number, or VIN or chassis number), or

ii. if rated and certified either by the vehicle manufacturer or by an HV certifier, for a vehicle model, the plate need not identify the individual vehicle, but must identify the approval for that vehicle model.

29. Vehicles fitted with tipping bodies that includes load anchorage points must include a body lock that complies with the load requirements of NZS 5444.

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

10-2 Log bolster attachment

Certifier categories: **HVEL** | **HMLD**

Reasons for rejection

1. A unit fitted with sliding log bolsters is not fitted with effective locking devices to prevent the bolsters moving when loaded except where the unit is set up for shorts operation and the sliding bolster is part of a pair with the other bolster fixed.

2. A bolster fitted to a heavy truck or trailer for the first time on or after 1 May 2001 does not comply with the version of the Bolster Attachment Code (Scedule 1, Schedule 2 or Schedule 4) applicable at the time the logging vehicle was fitted with the bolsters

3. Bolster attachments on vehicles fitted with convertible bolsters for the carriage of long logs have been certified to the alternative option by a manufacturer of logging vehicles who is also a manufacturing certifier or by a Bolster Attachment Code Certifying Engineer certify that the particular design of the bolster attachments when it has not successfully completed on a single vehicle, 250,000km of service without any indication of cracking due to fatigue or other significant failure.

4. A trailer fitted before 27 November 1998 with load cells supporting log bolster attachmentsthat have not been certified for compliance with a version of the Bolster Attachment Code in Schedule 1 or 2 does not have a second safety chain of at least 6000kg minimum breaking force per bolster fitted over the logs and fitted to anchor points directly to the chassis of the vehicle:

5. A trailer fitted before 27 November 1998 with load cells supporting log bolster attachmentsthat have not been certified for compliance with a version of the Bolster Attachment Code in Schedule 1 or 2 does not have load anchorage points of at least 6000kg rated strength that comply with *New Zealand Standard 5444: 1989, Load Anchorage Points for Heavy Vehicles* fitted directly to the chassis to support the required safety chains.

Summary of legislation

Applicable references

- Truck Loading Code (2012)
- Bolster Attachment Code (LTSC Issue 27, November 1998 – Schedule 1)
- Bolster Attachment Code (LTSC, Revision 1 May 2001 – Schedule 2)
- Bolster Attachment Code (Revision 2, November 2010 – Schedule 4)
- AS/NZS 1554 Welding
- NZS 5444, Load Anchorage Points for Heavy Vehicles
- AS 3990: 1993, Mechanical Equipment – Steelwork
- AS/NZS 2980:2018: Qualification of welders for fusion welding of steels – Additional requirements for Australia and New Zealand
- AS/NZS ISO9606.1: 2017 Qualification testing of welders – Fusion Welding
- **Technical bulletin 10: Welding in the transport industry**

Applicable legislation

- NZ Gazette Notice 2937 26/4/2001 (Note 1)
- **Land Transport Rule: Heavy Vehicles 2004**

Vehicle Body & Equipment attachment (section 3.2)

1. Subject to requirement 2, logging bolster attachments fitted to a vehicle on or after 27 November 1998 must comply with the version of the *Bolster Attachment Code* in *Schedules 1, 2* or *4* that applied at the time of fitting

Section 9

2.Despite *requirement 1*, logging bolster attachments exempted by notice in the *Gazette* from having to comply with a version of the *Bolster Attachment Code* in *Schedule 1* or *2* do not have to comply with the Code.

3. A trailer fitted before 27 November 1998 with load cells supporting log bolster attachments that have not been certified for compliance with a version of the Bolster Attachment Code in Schedule 1 or 2 must:

> a) in addition to the normal safety chain fitted to the bolster and any belly chains as otherwise required, have a second safety chain of at least 6000kg minimum breaking strength per bolster fitted over the load and secured to anchorage points mounted directly on the chassis of the vehicle; and
>
> b) have load anchorage points of at least 6000kg rated strength that comply with *New Zealand Standard 5444: 1989, Load Anchorage Points for Heavy Vehicles*.

Note 1

Bolster attachments on vehicles fitted with convertible bolsters for the carriage of long logs must comply with the Bolster Attachment Code 2001 unless certified by a manufacturer of logging vehicles who is also a manufacturing certifier or by a Bolster Attachment Code Certifying Engineer that the particular design of the bolster attachments has successfully completed on a single vehicle, 250,000km of service without any indication of cracking due to fatigue or other significant failure. A certificate to this effect must be presented to the TSD Agent at the time of first presentation of the vehicle for registration.

Page amended **9 April 2018** (see **amendment details**)