

Correct as at 24th May 2019. It may be superseded at any time.

Extract taken: from NZTA Vehicle Portal > VIRMs > Heavy vehicle specialist certification > Structure > Body and cab

4-2 Body and cab

Certifier categories: HVEC | HVCD

Reasons for rejection

1. A motor vehicle is affected by corrosion or weakening of its structure that is apparent by visual inspection so that the vehicle is unsafe to operate.
2. The performance of a motor vehicle in relation to protecting occupants in a frontal impact collision has been reduced below a safe tolerance of its state when manufactured or modified by any factors including corrosion structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment ([Note 1](#)).
3. A repair or modification to a motor vehicle that affects its frontal impact performance prevents the vehicle from complying with [Land Transport Rule: Frontal Impact 2001](#).
4. A repair or modification to a vehicle, its **cab**, structure, systems, components or equipment, has not restored the damaged or worn vehicle, **cab**, structure, system, component or equipment to be within safe tolerance of the state of the vehicle, **cab**, structure, system, component or equipment when manufactured ([Note 1](#)).
5. In repairing a vehicle, a repairer has not used a suitable repair method that takes into account the following:
 - a) the date of manufacture of the vehicle
 - b) the class, make and other relevant characteristics of the vehicle
 - c) the approved vehicle standards with which the vehicle is required to comply
 - d) the existence of relevant manufacturers recommendations and alternative methods
 - e) the material specifications used for construction of the vehicle, structure, systems and components or equipment
 - f) the compatibility of the intended repair process with materials specifications.
6. A repairer has not used systems, components and equipment that enable a vehicle to comply with requirement 5 above.
7. The body of a monocoque construction or a load bearing structure other than a chassis, or a body fitted to a chassis is not of adequate strength for all conditions of loading and operation for which the vehicle was constructed.
8. **For right-hand drive conversions**, the right-hand firewall/bulkhead:
 - a) does not replicate the original left-hand side profile
 - b) has not been fabricated by using at least the same gauge material, or
 - c) does not incorporate similar reinforcement to that used by the original manufacturer, or
 - d) is not fully welded to the original firewall with an overlap of at least 10 mm, or
 - e) the welding method is not suitable for the materials used.
9. All redundant openings in the firewall/bulkhead have not been permanently sealed to prevent entry of engine fumes into the passenger cabin.
10. A modification to the floorpan and inner guard area fouls steering or tyre clearances.
11. Materials used in a repair, modification or conversion are not of at least the same specification as the original materials.
12. A sill has been sectioned:
 - a) where this is not permitted in the manufacturer's instructions ([Note 1](#)), or
 - b) against either the manufacturer's instructions or a recognised repair research organisation's procedures ([Note 2](#)), or
 - c) in a manner that is not supported by design and certification from an HVS certifier.

13. A pillar has been sectioned
 - a) when the manufacturer prohibits repairs to the pillar, or
 - b) against either the manufacturer's methods or a recognised repair research organisation's procedures ([Note 2](#)), or
 - c) in a manner that is not supported by design and certification from an HV certifier.
14. Filler has been applied to the windscreen bonding face of the pillar where this is not permitted in the manufacturer's instructions.
15. An incorrect etch primer has been applied to the windscreen bonding face of the pillar.
16. A structure which is used as a point of attachment does not provide a secure mounting.
17. A body, fitted on or after 1 October 2005, has not been designed and constructed so that the stresses on the attachment do not exceed 60% of the yield strength of the material from which the attachment is made calculated to the legislated requirements (Summary of Legislation 14)
18. A motorhome manufactured or converted prior to 1 October 2003 does not have seatbelts and seatbelt anchorages as required in tables 2.1 to 2.3 of [Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002](#). Refer to [Technical bulletin 5](#).
19. A motorhome manufactured or converted on or after 1 October 2003 does not have seatbelts or seatbelt anchorages as required for class MB vehicles in table 2.4 of [Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002](#) in the front seat positions. Refer to [Technical bulletin 5](#).
20. A motorhome manufactured or converted on or after 1 October 2003 does not have seatbelts or seatbelt anchorages as required for class MB vehicles in table 2.4 of [Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002](#) in as may seating position in the rear so that there are at least as many seating positions with seatbelts as there are sleeping berths. Refer to [Technical bulletin 5](#).
21. A motorhome manufactured or converted on or after 1 October 2003 does not have a notice fitted recommending that, on safety grounds, when travelling in the rear compartment, passengers use seats fitted with seatbelts.
22. A motorhome manufactured or converted on or after 1 October 2003 does not have a notice advising passengers that it is compulsory to wear fitted seatbelts.
23. A seatbelt has been modified and the modification is not approved by the seatbelt manufacturer or, alternatively, the manufacturer of the vehicle it is fitted to.
24. A seatbelt retrofitted to a heavy vehicle on or after 1 April 2002 has not been assessed against the technical requirements of seatbelt anchorage, regarding geometry and load-carrying capacity, in any of the approved vehicle standards for seatbelt anchorages that apply to light motor vehicles.
25. A seatbelt retrofitted to a heavy vehicle on or after 1 April 2002 does not comply with section 2.3 of [Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002](#).
26. A vehicle that has been damaged by immersion in water to the level of the cab or body has not had its fitted safety systems, both mechanical and electrical/electronic, as well as the structural components, inspected and, where required, repaired to within safe tolerance of original manufacture or most recent certification, and certified appropriately (see [Technical bulletin 1: Heavy vehicle repair thresholds](#)).
27. A vehicle that has been damaged by fire has not had the structural components of its cab or body inspected to ensure that heat has not reduced its structural strength or damaged fitted safety systems or they have not been reinstated to within safe tolerance of original manufacture or most recent certification and certified appropriately (see [Technical bulletin 1: Heavy vehicle repair thresholds](#)).
28. A vehicle that has been damaged in a crash has not had the structural components of its chassis or body inspected to ensure that damage has not occurred to structural or fitted safety systems, and they have not been reinstated to within safe tolerance of original manufacture or most recent certification and certified appropriately (see [Technical bulletin 1: Heavy vehicle repair thresholds](#)).

Note 1

Certifiers must take into account applicable international legislation (eg, FMVSS 216a, UNECE Reg. 29, etc.) to which a vehicle originally complied when determining safe tolerance to the state of manufacture, especially with regards to modifications that may impact occupant safety.

Note 2

Damaged parts should be replaced at factory seams whenever practicable and when required by the vehicle manufacturer.

Summary of legislation

Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Heavy Vehicles 2004](#)
- [Land Transport Rule: Seatbelts and Seatbelt Anchorages 2002](#)
- [Land Transport Rule: Vehicle Repair 1998](#)
- [Land Transport Rule: Vehicle Standards Compliance 2002.](#)

Applicable references

- 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.](#)

Frontal Impact Rule

Section 2.2

1. The performance of a motor vehicle in relation to protecting occupants in a frontal impact collision must not be reduced below a safe tolerance of its state when manufactured or modified by any factors including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
2. In assessing whether requirement 2 has been complied with a certifier may take into account:
 - a) the function of the additional equipment fitted to the motor vehicle after manufacture and the measures taken to minimise the risk of injury from the equipment
 - b) evidence that the motor vehicle is within the manufacturer's operating limits.

Modification and repair (section 3)

3. A modification to a motor vehicle that affects its frontal impact performance:
 - a) must not prevent the vehicle from complying with the [Land Transport Rule: Frontal Impact 2001](#), and
 - b) must be certified by an HV certifier.

Repair (section 3.2)

4. A repair to a component or a group of components that affects a motor vehicle's frontal impact performance must comply with [Land Transport Rule: Vehicle Repair 1998](#) and must not prevent the vehicle from complying with the [Land Transport Rule: Frontal Impact 2001](#).

Vehicle Repair 1998 (section 2)

5. A repair to a vehicle, its structure, systems, components or equipment, must restore the damaged or worn vehicle, structure, system, component or equipment so that they are within safe tolerance of the state of the vehicle, structure, system, component or equipment when manufactured or modified.
6. If the vehicle has been certified as a modified vehicle, the repair must restore the vehicle, structure, system, component or equipment so that they are within safe tolerance of its state when certified as a modified vehicle.
7. In repairing a vehicle, a repairer must use a suitable repair method that takes into account the following:
 - a) the date of manufacture of the vehicle
 - b) the class, make and other relevant characteristics of the vehicle
 - c) the approved vehicle standards with which the vehicle is required to comply
 - d) the existence of relevant manufacturers recommendations and alternative methods
 - e) the material specifications used for construction of the vehicle, structure, systems and components or equipment
 - f) the compatibility of the intended repair process with materials specifications.
8. A repairer must use systems, components and equipment that will enable a vehicle to comply with requirement 6 above. The systems, components and equipment used may be new or used. Replacement systems, components and equipment used in a repair must comply with an approved vehicle standard applicable as specified by the relevant rule or regulation to the year of manufacture of the vehicle, system, component or equipment.

Heavy Vehicle Rule

Section 3

9. The chassis and body of a vehicle must be of adequate strength for all conditions of loading and operation for which the

vehicle was constructed.

10. The body of a monocoque construction must be of adequate strength for all conditions of loading and operation for which the vehicle was constructed.

11. A load bearing structure other than a chassis, a body fitted to a chassis or a monocoque body must be of adequate strength for all conditions of loading and operation for which the vehicle was constructed.

Vehicle body attachment

12. 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 14, do not exceed 60% of the yield stress of the material from which the attachment is made.

13. The stresses referred to in requirement 13 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.

Modification (section 6)

14. A modification to a vehicle that may affect the safety of the vehicle's components or the overall safety of the vehicle must not prevent the vehicle from complying with this rule.

15. If practicable, a modification to a vehicle must be carried out in accordance with instructions from the vehicle manufacturer and the manufacturer of any equipment being fitted to the vehicle.

16. A modification to a vehicle must be carried out:

- a) as specified by the manufacturer of the vehicle, if the manufacturer produces more than 1000 vehicles in a year for a market where compliance with Australian, Japanese, UN/ECE standards or the requirements of the United States is compulsory, or
- b) in accordance with the specifications of an HV certifier.

17. A modification to a vehicle must be carried out using components that are suitable for automotive application.

Repair (section 7)

18. A repair to a vehicle must comply with the Land Transport Rule: Heavy Vehicles 2004 and with Land Transport Rule: Vehicle Repair 1998.

19. A repair to the chassis of a vehicle or to a structural element of a monocoque body of a vehicle must be carried out:

- a) as specified by the manufacturer of the vehicle, if the manufacturer produces more than 1000 heavy vehicles in a year for a market in which compliance with Australian, Japanese, UN/ECE standards or the requirements of the United States is compulsory or
- b) in accordance with the specifications of an HVS certifier or
- c) by taking into account:
 - i. any information that is relevant to the vehicle, and
 - ii. the cause and type of failure, and
 - iii. any established methods of repair, including the Minor Repair Code, approved by the NZTA and published by the New Zealand Truck-Trailer Manufacturers' Federation.

Seatbelt and Seatbelt Anchorages Rule

Motorhomes

20. A motorhome manufactured before 1 October 2003, or a motor vehicle converted into a motorhome before 1 October 2003, must be equipped with the seatbelts and seatbelt anchorages in Tables 2.1 to 2.3 that are appropriate for the class of vehicle in which the vehicle was registered, when registered as a motorhome and a motorhome manufactured on or after 1 October 2003 and a motor vehicle converted into a motorhome on or after 1 October 2003 must be equipped with:

- a) seatbelts and seatbelt anchorages that comply with the requirements for class MB vehicles in Table 2.4, in all front seating positions, and

b) lap (or lap and diagonal) seatbelts that comply with the requirements for class MB vehicles in Table 2.4, in at least as many rear seating positions as the number of sleeping berths exceeds the number of front seating positions, and

c) a notice, attached in a prominent position, that:

i. recommends, on safety grounds, that when the vehicle is travelling, passengers use seats that are fitted with seatbelts, and

ii. advises passengers that it is compulsory to wear fitted seatbelts.

Motor vehicles that transport detained persons

22. Where a heavy motor vehicle designed exclusively for transporting a person detained by the NZ Police or the corrections services, or by a person acting on their behalf, must be fitted with seatbelts and seatbelt anchorages in front seating positions, but does not have to comply with the requirements for other seating positions.

Modifications to seatbelts

23. A seatbelt must not be modified unless approved by the seatbelt manufacturer or vehicle manufacturer and is carried out in accordance with instructions issued by that manufacturer.

Seatbelt anchorages

24. A seatbelt anchorage that is retrofitted on or after 1 April 2002 in a heavy motor vehicle must comply with 2.3. by considering section 4.1(11) when assessing whether 2.3 is complied with, for the purposes of 4.1(10), the vehicle inspector or inspecting organisation must take into account the technical requirements, regarding geometry and load-carrying capacity, in any of the approved vehicle standards for seatbelt anchorages that apply to light motor vehicles.

Page amended **1 November 2018** (see [amendment details](#))