

Correct as at 21st May 2019. It may be superseded at any time.

Extract taken from: NZTA Vehicle Portal > VIRMs > Light vehicle repair certification > Vehicle structure

## 2 Vehicle structure

### 2-1 Unibody chassis rails

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#### Reasons for rejection

1. The performance of a frontal impact occupant protection system has been affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
2. A chassis rail has not been replaced when there is evidence that it had been deformed so that a localised kink of 90° or more has been formed over a small radius.
3. A chassis rail has not been replaced or sectioned when there are visible cracks, tears or splinters before or after the chassis rail is straightened.
4. A crush zone has been repaired where this is not permitted in the manufacturers instructions.
5. A rail has been over-stretched during repair.
6. Heat has been applied to a chassis rail in a manner that is not permitted in the manufacturers instructions.
7. Rails have been heated as part of the repair and the manufacturers temperatures and time limits have not been followed, or evidence of this process has not been provided ([Note 2](#)).
8. Heat has been applied to a rail in a manner that does not follow the manufacturers specifications.
9. A rail has been sectioned when the manufacturer prohibits sectioning of rails.
10. A rail has been sectioned using any procedure that is prohibited by the manufacturer.
11. A recognised repair research organisations procedures have not been followed to section a rail when the manufacturers instructions are not available.
12. Unless permitted by the manufacturers instructions, a chassis rail has been sectioned in or near the following locations:
  - a) engine, suspension, steering or drive train mounting point, or
  - b) crush zone.

#### Note 1

The replacement of damaged parts at factory seams should be done whenever practicable and when required by the vehicle manufacturer.

#### Note 2

If a rail is heated as part of a repair, evidence of the process must be provided in the vehicle file. This should include such information as the manufacturers specifications, temperature indicator used, and the time that the heat was applied for.

#### Note 3

For further information on replacement components see [section 9-3 Replacement components](#).

### Summary of legislation

#### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#).

#### Condition

1. The performance of a frontal impact occupant protection system must not be affected by any factor, including corrosion,

structural damage, material degradation, inadequate repair, the fitting of additional equipment, or the removal of equipment.

2. 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 it is within safe tolerance of the state of the vehicle when manufactured.

Page amended **1 October 2013** (see [amendment details](#)).

## 2-2 Body-over-frame chassis rails

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### Reasons for rejection

1. The performance of a frontal impact occupant protection system has been affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
2. A chassis rail has not been replaced when there is evidence that it has been deformed so that a localised kink of 90° or more has been formed over a small radius.
3. A chassis rail has not been replaced or sectioned when there are visible cracks, tears and or splinters before or after the chassis rail is straightened.
4. A crush zone has been repaired where this is not permitted in the manufacturers instructions.
5. A rail has been over-stretched during repair.
6. Rails have been heated as part of the repair and evidence that this process has been carried out to the manufacturers temperatures and time limits has not been documented ([Note 2](#)).
7. Heat has been applied to a chassis rail where this is not permitted in the manufacturers instructions.
8. A rail has been sectioned when the manufacturer prohibits sectioning of rails.
9. A rail has been sectioned but not following the manufacturers instructions.
10. A recognised repair research organisations procedures have not been followed to section a rail when the manufacturers instructions are not available.
11. Unless permitted by the manufacturers instructions, a chassis rail has been sectioned in or near the following locations:
  - a) engine, suspension, steering or drive train mounting point, or
  - b) crush zone.

#### Note 1

The replacement of damaged parts at factory seams should be done whenever practicable and when required by the vehicle manufacturer.

#### Note 2

If a rail is heated as part of a repair, evidence of the process must be provided in the vehicle file. This should include such information as the manufacturers instructions, temperature indicator used, and the time that the heat was applied for.

#### Note 3

For further information on replacement components see [section 9-3 Replacement components](#).

## Summary of legislation

### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#).

### Condition

1. The performance of a frontal impact occupant protection system must not be affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
2. 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 it is within safe tolerance of the state of the vehicle when manufactured.

Page amended **1 October 2013** (see [amendment details](#)).

### Reasons for rejection

1. A sill has been sectioned where this is not permitted in the manufacturers instructions.
2. A sill has been sectioned but not following either the manufacturers instructions or a recognised repair research organisations procedures.
3. A sill has been sectioned but not using one of the following procedures (unless the procedure used is permitted by the manufacturer or a recognised repair research organisation):
  - a) lap joint, or
  - b) offset butt or offset lap joint with appropriate inserts, or
  - c) butt joint with an insert, or
  - d) a 25mm overlap with MIG plug welds.

#### Note 1

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

#### Note 2

For further information on replacement components see [section 9-3 Replacement components](#).

### Summary of legislation

#### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#).

#### Condition

1. The performance of a frontal impact occupant protection system must not be affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
2. 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 it is within safe tolerance of the state of the vehicle when manufactured.

Page amended **1 October 2013** (see [amendment details](#)).

## 2-4 A-pillars

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### Reasons for rejection

1. An A-pillar has been sectioned when the manufacturer prohibits repairs to the A-pillar.
2. An A-pillar has been sectioned but not following either the manufacturers methods or a recognised repair research organisations procedures.
3. An A-pillar has been sectioned but not using one of the following procedures (unless specifically permitted by the manufacturer, or a recognised repair research organisation):
  - a) butt joint with an insert, or
  - b) offset butt joint, or
  - c) offset butt joint with an insert, or
  - d) a 25mm overlap with MIG plug welds.
4. A foam-filled pillar has not had the foam replaced with the correct foam.
5. Filler has been applied to the windscreen bonding face of the pillar where this is not permitted in the manufacturers instructions.
6. An incorrect etch primer has been applied to the windscreen bonding face of the pillar.

#### Note 1

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

## Note 2

For further information on replacement components see [section 9-3 Replacement components](#).

## Summary of legislation

### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#)
- [Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999](#).

### Condition

1. 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 it is within safe tolerance of the state of the vehicle when manufactured.
2. The performance of a frontal impact occupant protection system must not be affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
3. Glazing must be mechanically sound, strong and securely affixed to the vehicle.

Page amended **1 October 2013** (see [amendment details](#)).

## 2-5 Other pillars and doors

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### Reasons for rejection

1. A pillar has been sectioned where this is not permitted in the manufacturer's instructions.
2. A pillar has been sectioned without following either the manufacturer's instructions or a recognised repair research organisation's procedures.
3. An A-pillar has been sectioned but not using one of the following procedures (unless specifically permitted by the manufacturer or a recognised repair research organisation):
  - a) butt joint with an insert, or
  - b) offset butt joint, or
  - c) offset butt joint with an insert, or
  - d) a 25mm overlap with MIG plug welds.
4. A foam-filled pillar has not had the foam replaced with the correct foam.
5. An inner pillar has been cut or patched in either of the following locations (unless the manufacturer allows it):
  - a) above the seatbelt anchorage reinforcement, or
  - b) within 300mm of a seatbelt retractor anchorage.
6. In the absence of specific permission in the manufacturer's instructions, a pillar has been cut in one of the following locations:
  - a) through sill panel reinforcements
  - b) within 150mm of a door latch
  - c) within 150mm of a door hinge.
7. A door intrusion beam, required for the performance of a vehicle's frontal impact occupant protection system, has been deformed.

### Note 1

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

### Note 2

For further information on replacement components see [section 9-3 Replacement components](#).

## Summary of legislation

## Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#)
- [Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999](#)
- [Land Transport Rule: Door Retention Systems 2001](#).

## Condition

1. 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 it is within safe tolerance of the state of the vehicle when manufactured.
2. The performance of a frontal impact occupant protection system must not be affected by any factor, including corrosion, structural damage, material degradation, inadequate repair, the fitting of additional equipment or the removal of equipment.
3. A seatbelt anchorage and its mounting location must:
  - a) be of a strength appropriate to both the vehicle and the seatbelt, and
  - b) be structurally sound and free of corrosion, and
  - c) not be damaged or distorted.
4. A door retention system and its mountings must be safe, structurally sound and in good working order.

Page amended 7 October 2016 (see [amendment details](#)).

## 2-6 Bumpers and energy absorber

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### Reasons for rejection

1. In the absence of specific permission in the manufacturers instructions, one of the following components has been repaired:
  - a) high strength steel bumper reinforcements
  - b) aluminium bumper reinforcements
  - c) structural fibre and composite bumpers
  - d) non-mechanical energy absorbers.

### Summary of legislation

#### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#).

## 2-7 Plastic repair

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### Reasons for rejection

1. In the absence of specific permission in the manufacturers instructions, one of the following components has been repaired:
  - a) fuel tank or line
  - b) structural composite parts and components
  - c) energy absorbing bumper
  - d) composite leaf spring.

### Summary of legislation

#### Applicable legislation

- [Land Transport Rule: Frontal Impact 2001](#)
- [Land Transport Rule: Vehicle Repair 1998](#).

## 2-8 Points of attachment

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### Reasons for rejection

1. A structure which is used as a point of attachment ([Note 1](#)) does not provide a secure mounting ([Note 2](#)).

#### Note 1

A point of attachment is the structure where legally required components such as headlamps, rear-view mirrors, etc are fitted.

#### Note 2

See [Technical bulletin 1](#) for further information regarding corrosion in Nissan Terrano or Mistral rear floor pan assemblies.

### Summary of legislation

#### Applicable legislation

- [Land Transport Rule: Vehicle Repair 1998](#).