

Correct as at 25th April 2026. It may be superseded at any time.

**Extract taken from:** In-service certification (WoF and CoF) > Heavy vehicles > Tyres, wheels and hubs > Hubs and axles

## 10-1 Hubs and axles

### Reasons for rejection

#### Mandatory and permitted equipment (Note 1)

1. A rigid heavy vehicle is not supported by:
  - a) a single or twin-steer axle set at the front, or
  - b) a single, tandem or tri-axle set at the rear.
2. An axle set, other than a twin-steer axle set, is not load sharing.
3. The manufacturer's plate for a tandem axle set (except for a tandem axle set in a heavy passenger service vehicle) with a twin-tyred axle and a large single-tyred axle (where these were fitted from 1 July 2002):
  - a) is missing, or
  - b) is not legible, or
  - c) does not show:
    - i. the load-share ratio of the axle set, or
    - ii. a ratio that is either 60:40 or 55:45, or
    - iii. the tyre size on each axle, or
    - iv. the maximum individual axle ratings, or
  - d) has details that do not match the vehicle.
4. A heavy vehicle is fitted with one or more rear steering axles, and the vehicle is not one of the following types:
  - a) a mobile crane
  - b) the rear unit of an articulated bus
  - c) a rigid vehicle without a heavy tow coupling, provided that no more than half of the axles within the rear axle set steer at any one time
  - d) a specialist vehicle designed to transport overdimension or overweight load, or to primarily carry out a specialist function that requires overdimension equipment.
5. A mobile crane does not have at least either a non-steering axle or a steering axle capable of being locked so that it is non-steering.
6. A heavy vehicle is presented towing an A-train or B-train and is fitted with a retractable axle in its rear axle set.
7. A device for altering the distribution of mass between axles has been fitted to the vehicle when:

- a) the device does not lift an unpowered axle clear of the ground, or
  - b) the device reduces the mass carried by an unpowered axle without lifting it clear of the ground, but the device:
    - i. does not have a spring-loaded control, ie when the control is released, the mass on the unpowered axle does not revert to what it was before the operation of the control, or
    - ii. does not have a control with an automatic timing device with an activation time of not more than two minutes after which the mass on the unpowered axle reverts automatically to what it was before the operation of the control, and with a non-activation time of at least 30 seconds during which the control cannot be activated again.
8. A sliding axle set is not fitted with both:
- a) an effective locking device to prevent inadvertent extension or separation, and
  - b) endstops at the end of the slideway to prevent separation of the sliding parts if the primary locking device fails.

### **Condition**

9. Refer to [general vehicle pages](#).
10. A sliding axle assembly has deteriorated, eg:
- a) a chassis rail/guide, locking pin or other component is missing, deformed, cracked or otherwise worn or damaged, or
  - b) a locking pin is too small or too short, or
  - c) there is an air leak from the lock pin air ram.
11. A locking of a sliding axle locking device is either:
- a) not readily verifiable by visual inspection, or
  - b) the vehicle is not equipped with a visual or audible alarm to warn the driver if the axle is not locked in one of the locking positions (Note 2).
12. A sliding axle locking device is bent, worn or otherwise damaged, or has deteriorated so that it is not effective.
13. A sliding axle locking device does not operate correctly.
14. A sliding axle endstop is:
- a) missing, or
  - b) insecure, or
  - c) damaged.

### **Performance**

15. Refer to [general vehicle pages](#).

### **Modification and repair**

16. A modification or repair affects the hubs or axles and:
- a) is not excluded from the requirements for HVS certification (Table 10-2-2), 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 **the vehicle has been modified or repaired, and:**

- i. no LANDATA record has been entered, or
- ii. no valid LT400 form from an HVS certifier of category HVEC or HMCD has been presented.

#### **Note 1**

For specialist overdimension vehicles, none of the equipment Reasons for rejection or Summaries of legislation apply except numbers 2 and 7, that is axle sets must be load sharing, and axle mass redistribution devices must meet specified requirements.

#### **Note 2**

An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

#### **Note 3 Definitions**

**Load-sharing axle set** means an axle set suspension system that has effective damping characteristics on all axles of the set and is built to divide the load between the tyres on the set so that no tyre carries a mass more than 10% greater than the mass it would carry if:

- a) the load were divided in the axle set so that each tyre carries an equal load, or
- b) the axle set is a tandem-axle set comprising a twin-tyred axle and a large single-tyred axle and is built to divide the load between the tyres on the set so that:
  - i. 60% of the load is borne by the twin-tyred axle and 40% of the load is borne by the large single-tyred axle, or
  - ii. 55% of the load is borne by the twin-tyred axle and 45% of the load is borne by the large single-tyred axle.

**Retractable axle** means an axle that has a convenient adjustment to allow the axle load distribution of the axle set to be varied substantially. An axle that is retracted is not considered to be part of the axle set.

**Specialist overdimension vehicle** means:

- a) a vehicle designed primarily to transport overdimension or overweight loads, or
- b) a vehicle whose primary purpose is to carry out a specialist function that requires overdimension equipment, and
  - i. dismantling of the vehicle's equipment would make the equipment unusable for its intended purpose, or
  - ii. it would take more than four hours to dismantle the vehicle's equipment.

**Table 10-2-2. Requirements for HVS certification**

HVS certification is required	HVS certification is not required
<ol style="list-style-type: none"><li>1. An axle that is modified, including a replacement axle that is not identical to the one fitted by the vehicle manufacturer.</li><li>2. Fitting of an additional axle.</li><li>3. A retractable axle.</li></ol>	<ol style="list-style-type: none"><li>1. 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 no evidence of this is required).</li><li>2. 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, reputable workshop).</li></ol>

## Summary of legislation

### Applicable legislation

- [Land Transport Rule: Vehicle Dimensions and Mass 2002](#)
- [Land Transport Rule: Heavy Vehicles 2004](#).

### Mandatory and permitted equipment (Note 1)

1. A rigid heavy vehicle must be supported by a front single or twin-steer axle set, and by a rear single, tandem or tri-axle set.
2. The axle sets, except a twin-steer axle set, of a heavy vehicle must be load sharing.
3. A tandem-axle set (except for a tandem axle set in a heavy passenger service vehicle) with a large single-tyred axle must have a manufacturer's indelible plate clearly visible to the person weighing the vehicle that specifies the:
  - a) load-share ratio of the axle set of 60:40 or 55:45, and
  - b) tyre size on each axle, and
  - c) maximum individual axle ratings.
4. A heavy vehicle must not have any rear steering axles, except if the vehicle is:
  - a) a mobile crane, or
  - b) the rear unit of an articulated bus, or
  - c) a rigid vehicle without a heavy tow coupling provided no more than half the axles within the rear axle set steer at any one time, or
  - d) a specialist vehicle designed to transport overdimension or overweight loads, or to primarily carry out a specialist function that requires overdimension equipment.
5. A mobile crane must have at least one rear axle capable of being locked so that it is non-steering.
6. A heavy vehicle not towing an A-train or B-train may have a retractable axle in its rear axle set.
7. A device for altering the distribution of mass between axles may only be fitted to a vehicle if the device:

- a) lifts an unpowered axle clear of the ground, or
  - i. reduces the mass carried by an unpowered axle without lifting it clear of the ground, and
  - ii. is a control that is spring loaded, so that when the control is released the mass on the unpowered axle reverts to what it was before the operation of the controls, or
- b) has a control with an automatic timing device with an activation time of not more than two minutes after which the mass on the unpowered axle reverts automatically to what it was before the operation of the control, and with a non-activation time of at least 30 seconds during which the control cannot be activated again.

8. A sliding axle set must be fitted with both:

- a) an effective locking device to prevent inadvertent separation or extension, and
- b) endstops at the end of the slideway to prevent the separation of the sliding parts if the primary locking device fails.

### **Permitted equipment**

9. A vehicle may be fitted with a ballrace turntable.

### **Condition**

10. Refer to [general vehicle pages](#).

11. An axle fitted to a vehicle must have adequate strength and performance characteristics for all conditions of loading and operation for which the vehicle was constructed.

12. The locking of a sliding axle locking device must be readily verifiable by visual inspection, or the vehicle must be equipped with a visual or audible alarm to warn the driver if the equipment is not locked in one of the locking positions.

### **Performance**

13. An alarm must be visible or audible from the driver's seating position, and the alarm must operate when the vehicle's engine is running, except when the parking brake is fully applied or when the gear selector of a vehicle with an automatic transmission is in the 'park' position.

14. If the sliding axle set locking device incorporates a system that provides energy for its operation, the device must remain fully engaged in the locking position, or the locking action must be initiated immediately, if the energising system fails.

15. Refer to [general vehicle pages](#).

### **Modification and repair**

16. A modification or repair that affects the hubs or axles must be inspected and certified by an HVS certifier of category HVEC or HMCD unless the vehicle:

- a) is excluded from the requirement for HVS certification (Table 10-2-2), and
- b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.