
Overview

This standard is about removing and replacing units and components commercial trailer units and components where dismantling and re-assembly of chassis systems is required. It is also about evaluating the performance of replaced units and components.

The units and components concerned are those not replaced as part of normal routine heavy vehicle trailer maintenance (servicing) activities.

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Performance

criteria

- You must be able to:
- P1 use suitable personal and vehicle protective equipment and use vehicle coverings throughout all removal and replacement activities
 - P2 support your removal and replacement activities by reviewing
 - P2.1 heavy vehicle trailer technical data
 - P2.2 removal and replacement procedures
 - P2.3 legal requirements
 - P3 prepare, check and use all the **equipment** required following manufacturers' instructions
 - P4 carry out all removal and replacement activities following;
 - P4.1 manufacturers' instructions
 - P4.2 your workplace procedures
 - P4.3 health and safety requirements
 - P5 you work in a way which minimises the risk of:
 - P5.1 damage to other heavy vehicle trailer systems
 - P5.2 damage to other heavy vehicle trailer components and units
 - P5.3 contact with leakage
 - P5.4 contact with hazardous substances
 - P6 ensure replaced chassis **units and components** conform to the heavy vehicle heavy vehicle trailer operating specification and any legal requirements
 - P7 promptly record and report any additional faults you notice during the course of your work
 - P8 use suitable **testing methods** to evaluate the performance of the reassembled system accurately
 - P9 ensure the reassembled chassis system performs to the heavy vehicle trailer operating specification and meets any legal requirements prior to return to the customer
 - P10 ensure your records are accurate, complete and promptly passed to the relevant person(s) in the format required
 - P11 complete all removal and replacement activities within the agreed timescale
 - P12 promptly report any expected delays in completion to the relevant person(s)

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1 the legal requirements relating to the heavy vehicle trailer (including road safety requirements)
- K2 the health and safety legislation and workplace procedures relevant to heavy vehicle trailer maintenance activities and personal and vehicle heavy vehicle trailer protection
- K3 your workplace procedures for
 - K3.1 recording removal and replacement information
 - K3.2 the referral of problems
 - K3.3 reporting delays to the completion of work
- K4 the importance of documenting removal and replacement information
- K5 the importance of working to agreed timescales and keeping others informed of progress
- K6 the relationship between time and costs
- K7 the importance of promptly reporting anticipated delays to the relevant person(s)

Use of technical information

- K8 how to find, interpret and use sources of information applicable to unit and component removal and replacement within **chassis systems**
- K9 the importance of using the correct sources of technical information
- K10 the purpose of and how to use identification codes

Electrical and electronic principles

- K11 vehicle earthing principles and earthing methods
- K12 electrical and electronic principles associated with **chassis systems**, including types of sensors and actuators, their application and operation
- K13 types of circuit protection and why these are necessary
- K14 electrical safety procedures
- K15 electric symbols, units and terms
- K16 electrical and electronic control system principles

Chassis system operation and construction

- K17 how heavy vehicle trailer **chassis systems** and their related **units and components** are constructed, removed and replaced
- K18 how heavy vehicle trailer **chassis systems** and their related **units and components** operate

Equipment

- K19 how to prepare, check and use all the removal and replacement **equipment** required

Chassis system unit and component removal and replacement

- K20 how to remove and replace heavy vehicle trailer chassis system mechanical, electrical, hydraulic and pneumatic **units and components**
- K21 how to select and use gaskets, sealants, seals, fittings and fasteners
- K22 how to test and evaluate the performance of replacement chassis system **units and components** and the reassembled system against the heavy vehicle trailer operating specifications and any legal requirements
- K23 the relationship between **testing methods** and the chassis system **units and components** replaced – the use of appropriate test methods
- K24 when replacement **units and components** must meet the original **equipment** specification (OES) for warranty or other requirements
- K25 how to work safely avoiding damage to other heavy vehicle trailer systems, components and units and contact with leakage and hazardous substances
- K26 awareness of health and safety aspects of working on loaded heavy vehicle trailers (e.g. HAZCHEM, load type and capacity)
- K27 knowledge of vehicle to heavy vehicle trailer brake 'threshold' pressures/delays

Scope/range

- 1. Equipment is:**
 - 1.1. hand tools
 - 1.2. special workshop tools
 - 1.3. general workshop equipment
 - 1.4. electrical testing equipment

- 2. Testing methods are:**
 - 2.1. sensory
 - 2.2. functional

- 3. Units and components are:**
 - 3.1. mechanical
 - 3.2. electrical
 - 3.3. hydraulic and fluid
 - 3.4. pneumatic

- 4. Chassis systems are:**
 - 4.1. steering
 - 4.2. suspension, including ESP
 - 4.3. braking, including ABS and EBS
 - 4.4. wheels (locking and security) and tyres

Additional information

This section contains examples and explanations of some of the terms used but does not form part of the standard.

Glossary

Agreed timescales:

Examples include: manufacturer's recommended work time, job times set by your company or a job time agreed with a specific customer

Functional testing:

Examples include: use of brake roller tester, dynamometer, suspension activation

Heavy Vehicle Trailer:

These include:

DVSA category O3: Trailers over 3,500 kg but not exceeding 10,000kg.

DVSA category O4: Trailers with a DTAW exceeding 10,000kg.

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