

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

Overview

This standard is about removing and replacing large goods and passenger vehicle units and components where dismantling and re-assembly of chassis systems is required. It is also about evaluating the performance of those not replaced as part of normal routine vehicle maintenance (servicing) activities.

Deleted: NOS

Deleted: commercial

Deleted: replaced units and components. The units and components concerned are

Deleted: those

Deleted: outside those

DRAFT

Deleted: commercial

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

Performance
criteria

DRAFT

Deleted: commercial

IMIHV04 Remove and replace large goods and passenger vehicle chassis units and components

2

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

You must be able to:

P1 use suitable personal and vehicle protective equipment throughout all removal and replacement activities

Deleted: wear

Deleted: and use vehicle coverings (where appropriate)

P2 support your removal and replacement activities by reviewing:

P2.1 vehicle technical data

P2.2 removal and replacement procedures

P2.3 legal requirements

P3 prepare the vehicle, vehicle systems and work area for safe working procedures

Deleted: (where appropriate)

P4 prepare, check and use all the **equipment** required following manufacturers' instructions

Deleted: test

P5 carry out all removal and replacement activities following:

P5.1 manufacturers' instructions

P5.2 your workplace procedures

P5.3 health, safety and environmental requirements

Deleted: and

P6 work in a way which minimises the risk of:

Deleted: <#>environmental requirements¶

P6.1 damage to other vehicle systems, units and components

P6.2 contact with leakage and hazardous substances

Deleted: <#>damage to other vehicle components and units¶

P6.3 damage to your working environment

Deleted: contact with hazardous substances

P6.4 injury to self and others

P7 ensure replaced chassis **units and components** conform to the vehicle operating specification and any legal requirements

P8 record and report any additional faults you notice during the course of your work promptly

P9 use suitable **testing methods** to evaluate the performance of the reassembled system accurately

P10 ensure the reassembled chassis system performs to the vehicle operating specification and meets any legal requirements prior to return to the customer/driver

P11 ensure your records are accurate, complete and passed to the relevant person(s) within the agreed timescale in the format required

Deleted: promptly

P12 complete all removal and replacement activities within the agreed timescale

P13 report any expected delays in completion to the relevant person(s) promptly

Deleted: commercial

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

Knowledge and understanding

Legislative and organisational requirements and procedures

DRAFT

Deleted: commercial

IMIHV04 Remove and replace large goods and passenger vehicle chassis units and components

4

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

You need to know and understand:

- K1 the legal requirements relating to the vehicle (including road safety requirements)
- K2 the implications on an Operators Licence of not carrying out repairs and inspections correctly
- K3 the legislation and workplace procedures relevant to
 - K3.1 health and safety
 - K3.2 the environment (including waste disposal)
 - K3.3 appropriate personal and vehicle protective equipment
- K4 your workplace procedures for
 - K4.1 recording removal and replacement information
 - K4.2 the referral of problems
 - K4.3 reporting delays to the completion of work
- K5 the importance of documenting removal and replacement information
- K6 the importance of working to agreed timescales and keeping others informed of progress
- K7 the relationship between time and costs
- K8 the importance of reporting anticipated delays to the relevant person(s) promptly

Deleted: ¶

You need to know and understand:

Use of technical information

- K9 how to find, interpret and use sources of information applicable to unit and component removal and replacement within **chassis systems**
- K10 the importance of using the correct sources of technical information
- K11 the purpose of and how to use identification codes

You need to know and understand:

Electrical and electronic principles

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

Deleted: commercial

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

K17 electrical and electronic control system principles

K18 the hazards associated with working on or near high voltage electrical vehicle components

Deleted: energy

You need to know and understand:

Chassis system operation and construction

K19 how large goods and passenger vehicle, **chassis systems** and their related **units and components** are constructed, removed and replaced

Deleted: commercial vehicle

K20 how large goods and passenger vehicle, **chassis systems** and their related **units and components** operate

Deleted: commercial vehicle

You need to know and understand:

Equipment

K21 how to prepare, check and use all the removal and replacement **equipment** required

Deleted: test

You need to know and understand:

Chassis system unit and component removal and replacement

K22 how to remove and replace large goods and passenger vehicle, chassis system mechanical, electrical, hydraulic and pneumatic **units and components**

Deleted: commercial vehicle

K23 how to select and use gaskets, sealants, seals, fittings and fasteners

Deleted: <#>how to file, fit, tap, thread, measure and mark out, cut and drill plastics and metals¶

K24 how to test and evaluate the performance of replacement chassis system **units and components** and the reassembled system against the vehicle operating specifications and any legal requirements

K25 the relationship between **testing methods** and the chassis system **units and components** replaced – the use of appropriate test methods

K26 when replacement **units and components** must meet the original equipment specification (OES) for warranty or other requirements

K27 how to work safely avoiding damage to other vehicle systems, components and units and contact with leakage and hazardous substances

K28 the importance of inspecting the vehicle following any repairs

Deleted: <#>any relevant health and safety aspects of working on loaded vehicles (e.g. HAZCHEM, load type and capacity)¶

Deleted: commercial

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

Scope/range

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

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

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

4. **Chassis systems are:**
 - 4.1. steering
 - 4.2. suspension
 - 4.3. braking
 - 4.4. wheels and tyres

Deleted: Additional information¶

Deleted: visual

Deleted: <#>aural¶

Deleted: and fluid

Deleted: commercial

IMIHV04 Remove and replace large goods and passenger vehicle chassis units and components

7

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

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 times, job times set by your company or a job time agreed with a specific customer.

Deleted: ¶

Functional testing:

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

Large Goods and Passenger Vehicles:

These are medium and large goods vehicles, buses and coaches of 3500kgs gross vehicle mass (GVM) and above.

Deleted: Commercial

Deleted: ¶

Deleted: Units and components: ¶

¶

Any unit or component from the chassis systems defined in the Scoping Statement above

Deleted: Functional testing:¶

¶

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

Deleted: Steering and suspension system:¶

¶

For the purposes of this unit, this will also include wheels and tyres.

Deleted: commercial

IMIHV04

Remove and replace large goods and passenger vehicle chassis units and components



Deleted: commercial

Developed by IMI

Version number 3

Deleted: 2

Date approved 2021

Deleted: December 2013

Indicative review date 2024

Deleted: December 2016

Validity Under review

Deleted: Current

Status Original

Originating organisation IMI Ltd

Original URN MRHV04

Relevant occupations Engineering; Vehicle Trades; Heavy Vehicle Service Technician (Automotive); Bus and Coach Mechanic; Bus and Coach Mechelec;

Suite Maintenance and Repair - Large Goods and Passenger Vehicle

Deleted: -

Deleted: Heavy

Key words Chassis; units; components; commercial; vehicle; heavy; remove; replace; steering; brakes; suspension; pneumatic; bus; coach;

Deleted: commercial

IMIHV04 Remove and replace large goods and passenger vehicle chassis units and components

9