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## Overview

This standard is about conducting routine examination, adjustment and replacement activities as part of the periodic maintenance of heavy goods and public service vehicles. This is relevant for both Heavy Vehicle Service/Maintenance Technicians and Bus & Coach Mechanics/Mechelecs.

## Performance criteria

### *You must be able to:*

P1 use suitable personal and vehicle protective equipment throughout all vehicle maintenance activities

P2 use suitable **sources of technical** and legal **information** to support all your vehicle maintenance activities

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

P4 work in a way which minimises the risk of damage to the vehicle and its systems

P5 adhere to the correct specifications and tolerances for the vehicle when making **assessments** of system and component performance

P6 where the vehicle falls outside the manufacturer's original specification, record details and use these as the basis for your assessment of system and component performance

P7 examine the vehicle's systems and components following:

P7.1 manufacturer's approved **examination methods**

P7.2 your workplace procedures

P7.3 health, safety and environmental requirements

P7.4 any prescribed documentation (where appropriate)

P8 ensure your **examination methods** identify any vehicle system and component problems falling outside the servicing schedule specified

P9 carry out adjustments, replacement of vehicle components and replenishment of consumable materials following the manufacturer's current specification for:

P9.1 the particular service interval

P9.2 working methods and procedures

P9.3 use of equipment

P9.4 the tolerances for the vehicle

P10 record the details and take action which complies with the customer's instructions where system adjustments cannot be made within the manufacturer's specification

P11 use suitable testing methods to evaluate the performance of all replaced and adjusted components and systems

P12 confirm all systems and components inspected function correctly following manufacturer's specifications

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P13 promptly report any problems or issues relating to the vehicle's condition or conformity to the relevant person(s)

P14 ensure your maintenance records are accurate, complete and passed to the relevant person(s) within the agreed timescale in the format required

P15 complete all vehicle maintenance activities within the agreed timescale

P16 promptly report any anticipated delays in completion to the relevant persons(s)

## Knowledge and understanding

*You need to know and understand:*

### **Legislative and organisational requirements and procedures**

K1 the manufacturer's and legal requirements, including Operator Licence criteria, relating to routine maintenance activities for vehicle systems and components

K2 the implications on an Operators Licence of not carrying out repairs and inspections correctly

K3 the legal requirements relating to the vehicle maintenance and auxiliary equipment (including road safety requirements)

K4 the legislation and workplace procedures relevant to

K4.1 health and safety

K4.2 the environment (including waste disposal)

K4.3 appropriate personal and vehicle protective equipment

K5 your workplace procedures for

K5.1 recording vehicle maintenance work and any variations from the original vehicle specification

K5.2 the referral of problems

K5.3 reporting delays to the completion of work

K6 the importance of recording vehicle maintenance information

K7 the importance of working to agreed timescales and keeping others informed of progress

K8 the relationship between time and costs

K9 the importance of promptly reporting anticipated delays to the relevant person(s)

### **Use of technical information**

K10 how to find, interpret and use **sources of technical information** for scheduled maintenance activities, including on-board vehicle displays

K11 the importance of using the correct **sources of technical information**

K12 the purpose of and how to use identification codes

### **Vehicle system operation**

K13 how internal combustion engines, cooling systems, air supply and exhaust systems, emission and environmental control systems, fuel systems and ignition systems operate for the types of vehicle on which you work

K14 how clutch assemblies, clutch operating systems, manual gear boxes, automatic gear boxes, drivelines and hubs (if appropriate) and final drive assemblies operate for the types of vehicle on which you work

K15 how suspension systems, steering systems, braking systems, non-electrical body systems, wheels and tyres operate for the types of vehicle on which you work

K16 how batteries, starting systems, charging systems, lighting systems and ancillary equipment operate for the types of vehicle on which you work

K17 the operating specifications and tolerances for the types of vehicles on which you work

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

### **Routine maintenance requirements**

K19 how to conduct scheduled, systematic, routine **examination methods** and **assessments** against vehicle specifications to identify damage, corrosion, inadequate fluid levels, leaks, wear, security problems and general condition and serviceability

K20 how to check and make adjustments to clearances, settings, alignment, pressures, tension, speeds and levels relevant to the engine area, transmission area, chassis area, electrical area and body

K21 how to replenish and replace routine service components and materials

K22 how to recognise and report cosmetic damage to vehicle components and units outside normal service items

K23 how to identify codes and grades of lubricants

K24 the consequence of using incorrect lubricants, fluids and components

K25 how to compare test and inspection results against vehicle specifications and legal requirements

K26 how to work safely avoiding damage to the vehicle and its systems

K27 the importance of inspecting the vehicle following any repairs

K28 the implications of failing to carry out inspection activities correctly

K29 how to recognise the consequences of adjustments on other systems (for example, tyre pressure adjustment) may affect Advanced Driver Assistance Systems (ADAS)

K30 the implications of signing workplace documentation and vehicle records

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## Scope/range

### 1. Sources of technical information are:

- 1.1. vehicle technical data
- 1.2. schedules of inspection
- 1.3. regulations
- 1.4. software updates

### 1. Examination methods are:

- 2.1. sensory
- 2.2. functional
- 2.3. measurement

### 1. Assessments are for:

- 3.1. malfunction
- 3.2. damage
- 3.3. fluid levels
- 3.4. leaks
- 3.5. wear
- 3.6. security
- 3.7. condition and serviceability
- 3.8. conformity
- 3.9. necessity for adjustment(s) and calibration(s)
- 3.10. corrosion

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## Glossary

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

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### **Adjustments**

Examples include: adjustments to clearances, settings, alignment pressures, tensions, speeds and levels, and adjustments to valves, ignition, fuel and emissions, brakes, transmission, lights, tyres, steering and body fittings.

### **Agreed timescales**

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

### **Ancillary equipment**

Examples include: tyre pressure monitoring, ADAS, cameras and radar units or navigation

### **Components**

Examples include: filters, drive belts, wiper blades, brake linings and pads, lubricants and fluids.

### **Conformity**

Examples include conformity to manufacturer's specifications, UK and European legal requirements where applicable.

### **Heavy goods and public service vehicles**

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

### **Maintenance records**

Examples include: records of vehicle inspection, manufacturers', fleet, company or customer job cards.

### **Major service**

As defined by manufacturers' specifications appropriate to the vehicle being working upon.

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### **Routine vehicle maintenance**

Examples include: conducting scheduled examinations, adjustments, replacements and replenishment of, or to, components and systems in accordance with

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manufacturer's instructions for the period and/or mileage interval and legal requirements.

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**Sensory testing methods \***

*These may include looking, listening, smelling and touching for heat.*

**\*Systems testing equipment**

Examples include: test instruments, emission test equipment, wheel alignment equipment, tyre tread depth gauges, interface.

**Vehicle technical data**

Examples include: hard copy manuals, data on computer and data obtained from on-board vehicle displays

IMIHGPSV01

Carry out routine heavy goods and public service vehicle maintenance



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