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**Overview**

This standard is about inspecting heavy goods and public service vehicle tyres to assess their condition and suitability for repair and carrying out necessary repair, replacement or refitting activities.

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## Performance

### criteria

- You must be able to:
- P1 select and use suitable personal protective equipment throughout all heavy goods and public service vehicle tyre **inspection**, repair and replacement activities
  - P2 use suitable sources of technical information to support your **inspection**, repair, re-grooving and replacement of **heavy goods and public service vehicle tyres**
  - P3 work in a way that minimises the risk of damage to the vehicle and its systems
  - P4 confirm that all the **tools and equipment** required are safe prior to use
  - P5 ensure your **inspection techniques** are sufficiently in depth to identify the severity of all tyre and wheel defects
  - P6 conduct all **inspection**, repair and replacement activities following:
    - P6.1 manufacturers' instructions
    - P6.2 your workplace procedures
    - P6.3 health and safety requirements
    - P6.4 the current industry standard for tyre repair
  - P7 carry out all **inspection**, repair and replacement activities using:
    - P7.1 suitable **tools and equipment**
    - P7.2 the correct **inspection techniques**
    - P7.3 the correct type, size and construction of tyre
  - P8 clearly identify and record the cause of any tyre, valve or wheel faults following your normal workplace procedures
  - P9 make clear and accurate recommendations for further action to the relevant person(s) when necessary
  - P10 ensure that replaced and refitted **heavy goods and public service vehicle tyres** and valves are correctly fitted
  - P11 ensure re-grooved tyres meet manufacturer's and legal requirements prior to release to the customer
  - P12 dispose of removed components and debris safely to meet current legal and your workplace requirements
  - P13 complete all activities within the agreed timescale
  - P14 promptly report any anticipated delays in completion and any additional faults identified to the relevant person(s)

## Knowledge and understanding

You need to know and understand:

### Legislative and organisational requirements and procedures

- K1 the current health and safety legislation and workplace procedures relevant to workshop practices and personal and vehicle protection
- K2 the current legal requirements for **heavy goods and public service vehicle tyres**, and the relevant parts of the prevailing British and or European standard for the repair of **heavy goods and public service vehicle tyres** BASU159
- K3 how to isolate scrapped tyres and dispose of waste materials in your workplace
- K4 the importance of disposing of waste safely and the consequences of not doing so to others and the environment
- K5 the importance of selecting, using and maintaining the appropriate personal protective equipment when inspecting, repairing and replacing **heavy goods and public service vehicle tyres**
- K6 the agreed work specification
- K7 your workplace procedures for:
  - K7.1 the referral of problems
  - K7.2 reporting of delays to the completion of work
  - K7.3 personal protection
  - K7.4 ensuring vehicle is safe to work upon
- K8 the requirements for protecting the vehicle and contents from damage before, during and after removing and replacing wheels
- K9 the importance of working to agreed timescales and keeping others informed of progress
- K10 the relationship between time and cost
- K11 the importance of promptly reporting anticipated delays to the relevant person(s)

You need to know and understand:

### Tools and equipment

- K12 how to select, prepare and use the **tools and equipment** necessary for inspecting, repairing, re-grooving, replacing and refitting **heavy goods and public service vehicle tyres**, including the use of specialist bead unseating tools for EVA/AVH rims
- K13 ensure correct calibration (self/third party) of **tools and equipment**

You need to know  
and understand:

### Materials

- K14 the types of tyre repair materials available (i.e. rubber only plug patch unit and rubber only patch and filler material)
- K15 the repair material manufacturer's instructions for the application of repair materials for the type(s) of tyres on which you are working

You need to know  
and understand:

### Tyre inspection, removal, repair and replacement

- K16 how to find and use suitable sources of information on **heavy goods and public service vehicle tyres**
- K17 the purpose, function and construction of **heavy goods and public service vehicle tyres**
- K18 the specific commercial tyre positions e.g drive, steer and trailer and how to select the appropriate tyre
- K19 the types and functions of tyre pressure monitoring systems
- K20 the types of heavy goods and public service vehicle wheel rims and how to inspect them and their components for compatibility and serviceability
- K21 the types of valves used in **heavy goods and public service vehicle tyres** and their installation techniques
- K22 the types of heavy goods and public service vehicle wheel fixings and how to inspect them for compatibility and serviceability BSAU 50
- K23 the common faults associated with **heavy goods and public service vehicle tyres** and their possible causes
- K24 the potential risks associated with aged tyres
- K25 the manufacturer's recommendations on the 'reparability' of their tyres
- K26 what a tyre **inspection** should cover
- K27 the **inspection techniques** associated with **heavy goods and public service vehicle tyres** and how to conduct them
- K28 the importance of taking accurate measurements and ensuring any adjustments are within
- K29 acceptable tolerances for the vehicle
- K30 the importance of basing your decision to replace or repair tyres upon the results of your **inspection**

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- K31 how to remove, repair, replace and refit **heavy goods and public service vehicle tyres**, wheels and valves
  - K32 how to identify the re-groovability of **heavy goods and public service vehicle tyres**
  - K33 how to re-groove **heavy goods and public service vehicle tyres** to manufacturers' recommendations
  - K34 the biological and environmental hazards associated with working in the industrial environment
  - K35 the importance of checking the safety and operation of equipment prior to use
  - K36 how to work safely avoiding injury to yourself, others and damage to wheels when removing and refitting **heavy goods and public service vehicle tyres**

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**Scope/range**

- 1. Heavy goods and public service vehicle tyres** are fitted to:
  - 1.1. 17.5, 19.5 and 22.5 diameter code rims
  - 1.2. external valve aperture or hole (EVA/EVH, A type, U type) rims
  - 1.3. split rims
  - 1.4. wide single rims
  
- 2. Tools and equipment** includes:
  - 2.1. lifting and supporting equipment
  - 2.2. wheel removal and refitting tools
  - 2.3. tyre removal and refitting hand tools
  - 2.4. measuring equipment
  - 2.5. tyre safety inflation equipment
  - 2.6. wheel balancing equipment if applicable
  - 2.7. tyre re-grooving equipment
  - 2.8. tyre repair tools
  - 2.9. Tyre Pressure Monitoring Systems (TPMS)
  
- 3. Inspection** includes:
  - 3.1. wheel rim components and fixings
  - 3.2. tyres
  - 3.3. valves
  - 3.4. inner tubes
  - 3.5. flaps
  
- 4. Inspection techniques** include:
  - 4.1. visual
  - 4.2. measurements of tread depth
  - 4.3. tyre pressures
  - 4.4. balance
  - 4.5. electronic

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

**Heavy goods and public service vehicles**

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

**Sources of information**

Examples include: vehicle and tyre manufacturer's publications, Government publications, company documentation, BSI publications.

**Tyre safety inflation equipment**

Examples include: tyre safety cages and 'bag-it' type inflation devices.

**Workplace**

Examples include: workshops, an outdoor environment, customer's premises and wherever you would normally work when dealing with heavy goods or public service vehicles.

<b>Developed by</b>	IMI
<b>Version number</b>	3
<b>Date approved</b>	December 2021
<b>Indicative review date</b>	December 2024
<b>Validity</b>	Current
<b>Status</b>	Original
<b>Originating organisation</b>	IMI Ltd
<b>Original URN</b>	VF03
<b>Relevant occupations</b>	Vehicle Fitters; Vehicle Fitting Operations (Automotive)
<b>Suite</b>	Vehicle Fitting
<b>Key words</b>	Inspect; repair; replace; heavy; goods; public; service; vehicle; tyres;