

Overview

This standard is about inspecting plant equipment tyres to assess their condition and suitability for repair and carrying out necessary repair, replacement or refitting activities.

Performance criteria

- You must be able to:*
- P1 select and use suitable personal protective equipment throughout all plant tyre **inspection**, repair and replacement activities
 - P2 use suitable sources of technical information to support your **inspection**, repair and replacement of plant tyres
 - P3 work in a way which minimises the risk of damage to the vehicle, its systems and the environment
 - 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, inner tube, valve 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 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, inner tube 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 **plant tyres** and valves are correctly fitted
 - P11 ensure that any work carried out conforms to legal requirements prior to releasing the vehicle to the customer
 - P12 dispose of removed components 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)

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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 legal requirements relating to **plant tyres** and the movement of vehicles on a plant site

K3 the hazards and risks associated with working in plant environments

K4 the specific health and safety requirements for the plant environment(s) in which you are working

K5 how to isolate scrapped tyres and dispose of waste materials in your workplace

K6 the importance of disposing of waste safely and the consequences of not doing so to others and the environment

K7 the importance of selecting, using and maintaining the appropriate personal protective equipment when inspecting, repairing and replacing **plant tyres**

K8 the agreed work specification

K9 your workplace procedures for:

K9.1 the referral of problems

K9.2 reporting of delays to the completion of work

K9.3 personal protection

K9.4 ensuring vehicle is safe to work upon

K10 the requirements for protecting the vehicle and contents from damage before, during and after removing and replacing wheels

K11 the importance of working to agreed timescales and keeping others informed of progress

K12 the relationship between time and cost

K13 the importance of promptly reporting anticipated delays to the relevant person(s)

Tools and equipment

K14 how to select, prepare and use the **tools and equipment** necessary for inspecting, repairing, replacing and refitting **plant tyres**, including the use of specialist bead unseating tools

K15 ensure correct calibration (self/third party) of tools and equipment

Materials

K16 the types of tyre repair materials available (i.e. rubber only plug patch unit, rubber only patch and filler material and externally applied repair materials) and tube repair materials

K17 the repair material manufacturer's instructions for the application of repair materials for the type(s) of tyres on which you are working

Tyre inspection, removal, repair and replacement

K18 how to find and use suitable sources of information on **plant tyres**

K19 the purpose, function and construction of **plant tyres**

K20 the specific plant tyre positions e.g. drive, steer and trailer and how to select the appropriate tyre

K21 the types of plant vehicle wheel rims and how to inspect them and their components for compatibility and serviceability

K22 the difference between well base (WB) and double well base (DWB) and divided type wheel rims

K23 the types of valves used in **plant tyres** and their installation techniques

K24 the types of plant vehicle wheel fixings and how to inspect them for compatibility and serviceability

K25 how to calculate dynamic rolling circumference in order to select the correct replacement tyres

K26 how to adjust wheel track to widen or reduce wheel positioning

K27 how to improve traction by the use of ballast (i.e. water ballasting, wheel weights, chassis weights)

K28 the common faults associated with **plant tyres** and their possible causes

K29 the potential risks associated with aged tyres

K30 the manufacturer's recommendations on the 'reparability' of their tyres

K31 what a tyre **inspection** should cover

K32 the **inspection techniques** associated with **plant tyres** and how to conduct them

K33 the importance of taking accurate measurements and ensuring any adjustments are with acceptable tolerances for the vehicle

K34 the importance of basing your decision to replace or repair tyres upon the results of your **inspection**

K35 how to remove, repair, replace and refit **plant tyres**, wheels, valves and tubes

K36 how to make the vehicle safe in an outdoor plant environment

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K37 any biological and environmental hazards associated with operating in your working environment

K38 the importance of checking the safety and operation of equipment prior to use

K39 how to work safely avoiding injury to yourself, others and damage to wheels when removing and refitting **plant tyres**

Scope/range

1. **Plant tyres** include:
 - 1.1. tube
 - 1.2. tubeless

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 repair tools
 - 2.6. tyre safety inflation equipment

3. **Inspection** includes:
 - 3.1. wheel rim and fixings
 - 3.2. tyres
 - 3.3. valves
 - 3.4. inner tubes

4. **Inspection techniques** include:
 - 4.1. visual
 - 4.2. tyre pressures
 - 4.3. measurements of tread depth

Glossary

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

Agreed timescales

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

Plant equipment

Examples include agricultural, horticultural and construction plant equipment.

Sources of information

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

Tyre safety inflation equipment

Examples include 'bag-it' type inflation devices and portable 'H' cages (dependant on vehicle size).

Workplace

Examples include: workshops, an outdoor plant environment, customer's premises and wherever you would normally work when dealing with plant equipment.

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