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## Overview

This standard identifies the competencies you need to carry out scheduled maintenance activities on traction and rolling stock mechanical equipment. You will be required to carry out scheduled maintenance on a range of mechanical equipment such as wheel sets, bogies, suspension, gearboxes, pumps, engines and other company-specific equipment to minimise downtime and ensure that the traction and rolling stock perform at the optimal level and functions to specification. The term traction and rolling stock used in this standard applies to passenger, freight and on-track machinery (OTM). Where it is relevant, these standards also apply to traction and rolling stock that has been fitted with the European Train Control System (ETCS).

You must ensure that all tools, equipment and materials used in the maintenance activities are removed from the work area on completion of the activities and that all necessary job/activity documentation is completed accurately and legibly. You will be expected to work to instructions, alone or in conjunction with others.

You will have an understanding of the process of implementing scheduled maintenance activities, the importance of carrying them out at specific times and recording the outcomes and actions taken. In addition, you will be expected to report where the outcomes identify the need for further investigation or maintenance work.

You will understand the safety precautions required when carrying out the maintenance activities, especially those for isolating the equipment and informing others of the work you are carrying out. You will also understand your responsibilities for safety and the importance of taking the necessary safeguards to protect yourself and others in the workplace.

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## Performance criteria

### *You must be able to:*

P1 maintain safe working practices and comply with all relevant health and safety regulations, directives, and guidelines

P2 follow the relevant mechanical maintenance schedules to carry out the required work

P3 carry out the mechanical maintenance activities within the limits of your personal authority

P4 carry out the mechanical maintenance activities in the specified sequence and in an agreed time scale

P5 report any instances where the maintenance activities cannot be met or where there are identified defects outside the planned schedule

P6 complete relevant maintenance records and pass them on to the appropriate person

P7 dispose of waste materials in accordance with safe working practices and approved procedures

## Knowledge and understanding

### *You need to know and understand:*

K1 the relevant health and safety regulations, directives, guidelines, and safe working practices and procedures defined by your organisation, as appropriate to the activity and your working area

K2 the isolation procedure or permit-to-work procedure that applies to the equipment being maintained (such as electrical isolation, locking off switchgear, placing of maintenance warning notices, proving the isolation has been achieved and secured)

K3 the specific health and safety precautions to be applied during the scheduled maintenance activities, and their effects on others

K4 the classification of different voltage levels and the authority requirements for working on them

K5 what constitutes a hazardous voltage/current and how to recognise victims of electric shock

K6 how to reduce the risks associated with stored energy systems (such as capacitors, air systems, hydraulic systems and springs)

K7 the steps to take to secure the vehicle from movement and protect it from other vehicle movements

K8 how to reduce the risks of an electric shock (such as insulated tools, rubber matting and isolating transformers)

K9 the importance of wearing protective clothing and other appropriate safety equipment (PPE) during the maintenance activities

K10 the hazards associated with carrying out scheduled maintenance activities on mechanical equipment (such as handling oils/greases, stored pressure/force, misuse of tools), and how they can be minimised

K11 how to obtain and interpret information from job instructions and other documentation used in the maintenance activities (such as drawings, specifications, manufacturers' manuals, servicing schedules, symbols and terminology)

K12 the various checks to be carried out during the scheduled maintenance procedure

K13 the maintenance requirements for 'lived', consumable and on condition components

K14 the procedure for obtaining the consumables to be used during the scheduled maintenance activity

K15 methods of checking that components are fit for purpose, and the need to replace 'lived' items

K16 the procedures for quarantining defective materials and local warranty procedures for repair or replacement

K17 the risks associated with bolted joints and the techniques to ensure that they are assembled in accordance with the specifications.

K18 how to check that any replacement components meet the required specification/operating conditions

K19 how to make appropriate sensory checks (such as sight, sound, smell and touch) the appropriate testing instructions to be adopted during the maintenance activity

K20 how to make adjustments to components/assemblies to ensure they function to specification

K21 the basic principles of how the equipment functions, its operating sequence, the working purpose of individual units/components and how they interact

K22 the different types of bearings that are used and their maintenance requirements

K23 how to complete scheduled maintenance records/logs/reports, in accordance with company policy and procedures

K24 the equipment operating and control procedures, and how to apply them in order to carry out scheduled maintenance

K25 the importance of recording the serial numbers of removed and newly fitted components affecting the rolling stock asset tree

K26 the problems that can occur whilst carrying out the scheduled maintenance activities, and how they can be avoided

K27 the organisational procedure(s) to be adopted for the safe disposal of waste of all types of materials the extent of your own authority and to whom you should report if you have problems that you cannot resolve

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## Scope/range

1.

In carrying out mechanical maintenance activities, individuals will:

2.

Scheduled maintenance activities may be carried out on the following:

3.

Types of scheduled maintenance activities include:

4.

Mechanical equipment maintenance may need to comply with the following:

5.

Types of maintenance records that need to be completed and passed to the appropriate people could include:

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