

UKTTWE08

Repair faults in Tramway components, equipment and assets



Overview

This standard is about repairing faults on Tramway components, equipment and assets. You will be able to use approved methods and techniques to locate and repair faults that involve the following interactive technologies:

- Electrification
- Signalling
- Telecommunications
- Track
- Trackside environment

The type and range of repairs could be complex and involve dismantling, removing, adjusting, modifying, replacing and installing a range of components, equipment and assets. The repairs may involve the interaction between two or more assets, components and equipment found in the Tramway environment. You may be required to undertake the repair activities individually or as part of a team. The repairs may also involve one or more of the following technologies;

- Electrical
- Hydraulic
- Mechanical
- Pneumatic
- Electronic
- Thermal

You will be required to determine, from the information and documentation provided, what has to be done and how best it can be achieved safely, within the time frames allowed and appropriate to the environment and site conditions. You will understand the methods and procedures used and their application to carry out activities, ensuring that the repaired components, equipment and assets meet the required specification.

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying problem solving techniques and procedures within an integrated system.

You will understand the safety precautions required when carrying out the repair activities, especially those for isolating the equipment and for taking the necessary safeguards to protect yourself, the wider environment and others in the workplace.

This standard is for those who work in the Tram engineering environment at supervisor or technician level.

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Performance criteria

You must be able to:

- P1 interpret and analyse **information** on the fault and repair activities to Tramway components, equipment and assets
- P2 confirm and agree the **repair activities** to take place and the sequence in which they will be carried out
- P3 prepare the tools and equipment required to carry out the repair in line with organisational requirements
- P4 take action to prevent damage or interference with other components, equipment, assets and the wider Tramway environment during repair activities
- P5 communicate proposed activities to the relevant **stakeholders**, as required
- P6 carry out repair activities on Tramway, components, equipment and assets in line with organisational procedures
- P7 carry out **integrity test and checks** on the repaired Tramway component, equipment or asset to confirm it is functioning correctly
- P8 record details on the extent and location of the faults and repairs in line with organisational requirements

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Knowledge and understanding

You need to know and understand:

- K1 the general operational and functional principles of the Tramway components, equipment and assets
- K2 the relationship between Tramway assets, components, equipment and the wider environment
- K3 the types of faults found in Tramway components, equipment and assets
- K4 the types of repair activities undertaken on Tramway components, equipment and assets
- K5 how to analyse information available for repair activities
- K6 how to prioritise repair activities
- K7 the **hazards** associated with carrying out repair activities on Tramway components, equipment and assets
- K8 the range of actions that can be taken to prevent damage or interference with other assets, components, equipment and the wider environment
- K9 the methods and techniques for repairing faults on Tramway components, equipment and assets
- K10 the ways in which repair activities can be adapted to suit a range of **environmental conditions**
- K11 the methods and techniques for carrying out integrity checks on Tramway components, equipment and assets
- K12 the importance of carrying out integrity tests and checks prior to a Tramway returning to operational service
- K13 when independent testing may be required
- K14 the extent of your own authority and to whom you should report if you have problems that you cannot resolve

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Additional Information

Scope related to performance criteria

P1 **Information** may include; electronic or paper records and documents (drawings, defect history, fault reports, handbooks, manuals, charts, maintenance specifications/schedules, maintenance history, images, warrantee, instructions, schedules, catalogues, logbooks), eye witness accounts, operator reports, sensory (sight, smell, touch, sound).

P2 **Repair activities** may include the rectification, replacement, monitoring, dismantling, removal, adjusting, modifying, installing or referral of; track (e.g. restoring track geometry, clearing a drainage blockage), signalling (e.g. points, Tram detection), telecommunications (e.g. wiring, data network), electrification (e.g. replacing and repairing structural steel work, insulators, power supply equipment), Track side environment (e.g. Tram stops, platforms, signage).

P5 **Stakeholders** may include; colleagues, contractors, pedestrians, road users, businesses, landowners, councils, general public, emergency services, transport operators, passengers, customers.

P7 **Integrity test and checks** may include; inspection, count, security, profile, alignment, labelling, configuration, correlation, compliance, physical condition, continuity, interference, resistance, frequency, performance, insulation, function, magnetic.

Scope related to knowledge criteria

K5 **Hazards** may include; Tram vehicles and other road users, stored pressure/force, electrical contact, electrical/electronic interfaces, handling fluids, using faulty/damaged tools and equipment, using unauthorised procedures, working at height, working in confined spaces.

K10 **Environmental conditions** may include; open to traffic, closed to traffic, restricted track access, daytime, night time/low lighting levels, extreme weather conditions, work site location (access/egress, public interaction, noise, dust, vibration), limited space.

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Additional Information

Glossary

Tram

Tramcars, tram vehicle, and any other rail vehicles that operate on tramways. It includes one or more trams coupled together and includes non-passenger-carrying vehicles.

Tramway environment

Includes the tramway (a set of rails, switches and crossings which form the route of a Tram), infrastructure (fixed assets used for the running of the Tram transport system, including, the tramway, bridges, tunnels, stops, stations and fixed equipment for signalling, communications and electrification), depots, stabling yards.

Trackside environment

Includes structures, platforms, embankments.

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