

Overview

This standard is about repairing faults on Tramway components, equipment and assets. You will be able to use methods and techniques, approved for use by your organisation, to locate and repair faults that involve one or more of the following areas of the Tramway: 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 completed and how it can be achieved safely, within the time frames allotted and in accordance with 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 an understanding of your work and will provide an informed approach to applying problem solving techniques and procedures within an integrated system. You will know and understand the safety precautions required when undertaking the repair activities, especially those for isolating the equipment and for taking the necessary safeguards to protect yourself, the wider environment and other people in the workplace. This standard is for those who work in the Tram engineering environment at supervisor or technician level.

Performance criteria

You must be able to:

- P1 confirm you are wearing the correct PPE (Personal Protective Equipment) and following the relevant **health and safety procedures**
- P2 interpret and analyse **information** received on the fault and repair activities to Tramway components, equipment and assets
- P3 confirm and agree the **repair activities** to take place and the sequence in which they will be undertaken in accordance with organisational procedures
- P4 prepare the tools and equipment required to undertake the repair in line with organisational requirements
- P5 take action to prevent damage or interference with other components, equipment, assets and the wider Tramway environment during repair activities
- P6 communicate proposed activities to the relevant **stakeholders**, as required
- P7 undertake repair activities on Tramway, components, equipment and assets in line with organisational procedures
- P8 undertake **integrity test and checks** on the repaired Tramway component, equipment or asset to confirm it is functioning in accordance with organisational procedures
- P9 record details on the extent and location of the faults and repairs in line with organisational procedures

Knowledge and understanding

You need to know and understand:

K1 the relevant health and safety procedures appropriate to the activity including safe systems of work
K2 the general operational and functional principles of the Tramway components, equipment and assets
K3 the relationship between Tramway assets, components, equipment and the wider environment
K4 the types of faults found in Tramway components, equipment and assets
K5 the types of repair activities undertaken on Tramway components, equipment and assets
K6 how to analyse the information available for repair activities
K7 how to prioritise repair activities in line with organisational procedures
K8 the **hazards** associated with undertaking repair activities on Tramway components, equipment and assets
K9 the range of actions that can be taken to prevent damage or interference with other assets, components, equipment and the wider environment
K10 the methods and techniques for repairing faults on Tramway components, equipment and assets
K11 the ways in which repair activities can be adapted to suit a range of **environmental conditions**
K12 the methods and techniques for undertaking integrity checks on Tramway components, equipment and assets
K13 the importance of undertaking integrity tests and checks prior to a Tramway returning to operational service
K14 when independent testing may be required
K15 the extent of your own authority and to whom you should report if you have identified problems that you cannot resolve

Scope/range related to performance criteria

P1 ****Health and safety**** ****procedures**** ********may include; ergonomic working, moving and manual handling, Personal Protective Equipment (PPE), working time and breaks, lone working, Personal Track Safety, safe systems of work (authorised access/egress points, signage, lighting, CCTV, walking to and from a work site, planned protection arrangements, emergency stop protection arrangements, possession arrangements, isolation requirements, communication/warning arrangements and techniques, positions of safety, safety zones, lookout arrangements, first aid points, emergency assembly point, safety briefings, fire evacuation, working at height requirements, working in confined spaces requirements, authorised walking routes, emergency service support (as required), walking to and from a vehicle, designated parking areas). P2 ****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). P3 ****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). P6 ****Stakeholders**** ********may include; ********colleagues, contractors, pedestrians, road users, businesses, landowners, councils, general public, emergency services, transport operators, passengers, customers. P8 ****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/range related to knowledge and understanding

K8 **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.

K11 **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.

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.

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Tramway

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.

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Trackside environment

Includes structures, platforms, embankments.

UKTTWE08



Repair faults in Tramway components, equipment and assets

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Suite Tramway Engineering

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