



Skills England

Standard Draft Preview

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Standard in development
L3: Rail track technician
Version 2.0

Title of occupation

Rail track technician

UOS reference number

ST1514

Core and options

No

Level of occupation

Level 3

Occupational maps data

Route: Engineering and manufacturing

Pathway: Maintenance, installation and repair

Cluster: Service, repair and/or overhaul operative or technician

Typical duration of apprenticeship

36 months

Target date for approval

01/09/2026

Resubmission

No

Would your proposed apprenticeship standard replace an existing framework?

No

Does professional recognition exist for the occupation?

Yes

Regulated occupation

Is this a statutory regulated occupation?

No

Occupational summary

This occupation is found in rail transport, engineering, and infrastructure construction sectors. Rail track technicians are employed by national infrastructure providers and specialist engineering contractors.

The broad purpose of the occupation is to inspect, maintain, install, renew or replace the track and related infrastructure (known as the permanent way) to ensure safe and efficient running of the railway network. The types of assets they typically work on include, but are not limited to; rails, sleepers, track bed or ballast, points, switches and crossings. They can work on a variety of railway infrastructure, including high speed track infrastructure.

In their daily work, an employee in this occupation interacts with track maintenance crews, signallers, engineering teams and supervisors, coordinating alongside other specialists to inspect, maintain, install, renew or replace the track and related infrastructure. The environment they work in is highly collaborative and safety critical.

An employee in this occupation will be responsible for inspecting, maintaining, installing, renewing or replacing the track and related infrastructure in line with operational requirements and instruction.

Typical job titles

Permanent way technician

Track maintenance technician

Track technical officer

Track technician

Are there any statutory / regulatory or other typical entry requirements?

No

Occupation duties

DUTY	KSBS
Duty 1 Comply and promote health, safety, security, sustainability, environmental and quality regulations and organisational procedures.	K1 K2 K3 K4 S1 S2 S3 S4 B1 B6
Duty 2 Plan and prepare to undertake track engineering activities.	K5 K6 K7 K8 K9 K10 S5 S6 S7 S8 S9 S10 B8
Duty 3 Gather and interpret technical data track infrastructure activities, ensuring accountability for received information.	K11 K12 K13 K14 K15 K16 K17 S11 S12 S13 S14 S15 S16 S17
Duty 4 Collaborate within teams to ensure safe, cost-effective delivery.	K18 K19 K20 K21 K22 S18 S19 S20 S21 S22 S23 B2 B3 B7
Duty 5 Complete inspection activities.	K23 K24 K25 K26 K27 S24 S25 S26 S27
Duty 6 Locate and diagnose defects on track infrastructure asset.	K28 K29 S28 S29
Duty 7 Maintain, adjust, repair, renew or remove track infrastructure assets and restore to operational specification.	K30 K31 K32 K33 K34 K35 K36 K37 K38 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39
Duty 8 Close out work and complete records to organisational requirements.	K39 K40 K41 S40 S41 S42 B5

Duty 9 Undertake continued professional and self development.

K42 K43

S43 S44

B4

KSBs

Knowledge

K1: How the relevant health, safety, environmental, security, and other regulation, legislation, standards, and guidance apply, to ensure a safe and environmentally sound work environment.

K2: The principles of sustainability and circular economy within the sector to minimising waste, through reuse, repair, restoring and recycling.

K3: The hazards and risks in the work environment, using risk assessments and safe systems of work.

K4: The responsibilities of the role and the impact of working in a safety critical environment.

K5: Planning, prioritisation, organisation, and time management tools and techniques.

K6: Self-management and self-motivation techniques, including being fit for duty.

K7: Preparation and maintenance of the track infrastructure work area.

K8: Consumables, tools, equipment and machinery used during work on track infrastructure activities. Purpose use and calibration requirements.

K9: Principles of first line maintenance of tools, equipment and machinery including pre-checks, inspections and condition.

K10: Business operation considerations, including quality, cost, whole life cost, delivery, and ethical practices.

K11: The principles of railway track asset design, construction and management: relevance and use.

K12: Technical specifications, drawings and technical information of track. Condition trends, anomalies.

K13: The quality assurance requirements and monitoring processes

K14: The importance and potential consequences, features and limitations of human performance, factors affecting human performance and non-technical skills.

K15: The principles and techniques of different track surveys.

K16: The principles and functions of track components, track geometry and track integrity.

K17: Digital systems and information technology required to undertake works, including general data protection regulation (GDPR) and cyber security.

K18: Principles and techniques of managing stakeholders involved in the track environment. Pre job briefings, co-ordinating internal and external stakeholder involvement. Sharing information at the right time to the right people

K19: Principles of cooperation and working with others, including working in a team, considering others' needs, dealing with conflict/aggressive behaviour and how to support others in the team.

K20: Principles of equity, diversity, and inclusion in the workplace, including treating others with respect, the value of diverse perspectives in resolving issues and improving delivery.

K21: Verbal and visual communication methods and techniques, including giving and receiving information, matching style to audience, use of technical terminology, listening techniques, and safety critical communications protocols.

K22: Written communication techniques.

K23: The principles and types of inspection.

K24: The standards, processes and procedures related to inspection activities.

K25: The importance of taking a systematic and thorough approach, and techniques to stay alert and manage distraction.

K26: The technical specifications for the assets being inspected and how to identify any defects and variations, including tolerances and intervention limits.

K27: Types of work that can be undertaken during an inspection. Limits of authority, escalation routes.

K28: Fault finding methods, techniques and diagnostic aids, including the symptoms and problems associated with the asset.

K29: The importance of using an evidence-based approach in the diagnoses of faults, defects and failures, including root cause analysis and baseline comparisons.

K30: Track engineering principles, strategies, methodologies and procedures

K31: Technical schedules sequencing and timescales, including seasonal and periodical schedules.

K32: Techniques to remain calm under pressure.

K33: Engineering methods and procedures, including operating tolerances and weather restrictions.

K34: The type and complexity of asset repair.

K35: Asset removal methods and techniques, including suitability and availability of replacement materials and disposal of unwanted materials and substances.

K36: Assembly methods and techniques, including techniques and precautions to prevent damage.

K37: The process for reinstating an asset to operating conditions. Quality assurance procedures.

K38: The process for handing back the asset for normal operations.

K39: The importance of accurate recording, including impact of incomplete records on maintenance planning, traceability and audit trails.

K40: Problem solving tools and techniques. How to deal promptly and effectively with problems within your control and report those that cannot be resolved

K41: Continuous improvement (CI) tools and techniques, including techniques to collect feedback and review own work.

K42: Planned and unplanned Continuing Professional Development (CPD) and recording method.

K43: Importance of health, wellbeing and resilience and ways to manage and maintain it for self

Skills

S1: Apply relevant health, safety, environmental and security, procedures diligently and in compliance with regulations, standards, and guidance.

S2: Apply regulation, legislation, standards, and guidance relating to sustainability and the circular economy.

S3: Follow safe systems of work, recognise hazards in the workplace and apply controls to mitigate them.

S4: Undertake the responsibilities of the role within the limits of authority

S5: Use planning, prioritising, organising, and time management tools and techniques to plan track infrastructure activities.

S6: Prepare and organise self for work

S7: Prepare and maintain the work area before, during and after the track infrastructure activity.

S8: Select, check and use the correct equipment to carry out the activity, ensuring it is calibrated as required prior to use.

S9: Apply principles of first line maintenance of tools, equipment and machinery

S10: Undertake track infrastructure maintenance activities in line with business operation considerations.

S11: Apply the relevant principles of asset design, construction and management to track infrastructure activities.

S12: Read and interpret specifications, drawings and technical information for track assets

S13: Comply with quality assurance requirements and monitoring processes

S14: Recognise and manage factors affecting own performance and factors affecting the performance of others, to maintain a safe working environment.

S15: Applies track surveying principles and techniques, when required and under the supervision of a competent colleague,

S16: Specify the relevant inspection and maintenance activities based on the technical data.

S17: Use digital and information technology and follows cyber security and GDPR requirements.

S18: Apply principles and techniques to manage stakeholder expectations in the track environment

S19: Apply the principles of collaboration and working with others

S20: Leads delivery activities as required, ensuring successful outcomes and proactive control of site-based risks.

S21: Apply principles of equity, diversity, and inclusion in the workplace.

S22: Communicate and respond verbally and visually without unnecessary detail.

S23: Communicates fact-based information in writing with clarity and precision, including only relevant content.

S24: Identify and confirm the inspection checks to be made and acceptance criteria to be used.

S25: Apply a systematic and thorough approach to track inspections, ensuring compliance with organisational procedures

S26: Identify and analyse any defects variations from the specification

S27: Undertake repairs within the limits of authority and time available.

S28: Investigate and establish the most likely causes of the faults

S29: Use the evidence gained to draw valid conclusions about the nature and probable cause of the fault

S30: Carry out engineering activities in an agreed time scale and within the limits of authority and instructions

S31: Apply technical schedule sequencing to track engineering activities

S32: Complete checks to confirm that the asset operates within appropriate tolerances and report any instances where the maintenance activities cannot be fully met or identified defects

S33: Carry out asset repair in line with specifications

S34: Check that the defective asset is correctly identified as defective and a replacement is available.

S35: Use tools and techniques to remove the asset.

S36: Compete quality assurance checks to ensure replacement asset or components are suitable for use and free from defects.

S37: Replace the asset in the correct sequence using appropriate tools techniques and precautions to prevent damage.

S38: Check that the replaced asset meets the specified operating conditions.

S39: Confirm that the work area is safe for normal operations.

S40: Create and share completed maintenance records.

S41: Applies problem-solving techniques to resolve issues promptly, minimising disruption to work activities

S42: Apply continuous improvement (CI) tools and techniques including a critical review of own work and identification of possible improvement.

S43: Carry out and record planned and unplanned learning and development activities.

S44: Identify, develop and adopt strategies for self to support health, wellbeing and resilience taking action when required.

Behaviours

B1: Make your own and other people's health and safety at work a priority

B2: Work cooperatively and collaboratively.

B3: Be flexible and responsive when meeting work demands.

B4: Take ownership of your continued professional development journey.

B5: Be responsible for the quality of your work.

B6: Act in an environmentally friendly and sustainable way.

B7: Be fair and inclusive in how you treat others.

B8: Consider the human factors applicable to your work.

Qualifications

English and maths

English and maths qualifications must be completed in line with the apprenticeship funding rules.

Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?

No

Professional recognition

This standard aligns with the following professional recognition:

- Relevant Professional Engineering Institution for Engineering technician

Consultation

Consultation has been undertaken in line with Skills England policy.

Progression routes

ST0496 Rail and rail systems senior engineer (integrated degree) L6

Supporting uploads

Mandatory qualification uploads

Mandated degree evidence uploads

Professional body confirmation uploads

Subject sector area