



Rail Engineering Operative Apprenticeship



Level: 2 Duration: 18 months

Occupational Profile

Rail Engineering Operatives provide support to Rail Technicians and Engineers. The engineering disciplines cover the following areas of **The Railway** (infrastructure and trains); track (including minor works), electrification, overhead line, signalling, telecommunications and traction & rolling stock. Apprentices will undertake the core learning and also specialise in one particular discipline.

Those working within the occupation of Rail Engineering are responsible for the safe construction, installation, maintenance and renewal of The Railway to provide a safe and reliable Railway for customers. The Rail Industry has a high level of safety critical work activities requiring a disciplined and responsible approach.

Entry criteria: Applicants will be assessed and interviewed to demonstrate that they have the ability to cover the range required by the apprenticeship standard, at work. In addition, the apprentices are expected to have GCSE in Maths and English or ICT at A*- E or equivalent.

Delivery Model: This apprenticeship standard can be delivered in a number of ways:

- At the college campus (Enfield Campus)
- There are two intakes for the course (September and March)

Progression: Completing this apprenticeship programme with its transferable skills will enable progression into roles such as a railway engineering team leader/supervisor, gang team leader.

Additional information: As well as ensuring full competency as a railway engineering operative, this standard provides the foundation for progression into a number of career paths in the rail sector. There are no entry requirements to the apprenticeship but employers may run their own selection process. Apprentices without Level 1 English and Maths will need to achieve this level and take the test for Level 2 English and Maths prior to completion of their Apprenticeship.

Knowledge

You will know and understand

Safe and Professional working practice

- Including legislation, regulation, industry procedures and safety requirements

The general engineering techniques

- Required to support the maintenance, renewal and construction of The Railway

How to work effectively and contribute to engineering solutions

- Including awareness of the importance of 3rd party requirement and the need to understand and adhere to corporate policies on ethics, equality and diversity

Awareness of commercial principles

- Applicable to The Railway, and the implications of these

Core Skills.

- Within a Rail context all Rail Engineering Operatives need to be able to:

Keep themselves and others safe by adhering to safe working practices

- Understand and comply with statutory regulations and organisational safety requirements, including safe access to work locations

Prepare for a high standard of technical work

- Gathering and interpreting information including drawings, plans and schedules needed for rail engineering activities and prepare the work location

Deliver a high standard of technical work

- Undertake engineering activities in relation to maintenance, construction / installation and or renewal of assets. Take responsibility for their own work on completing relevant integrity and compliance checks. Reinstate the work area after engineering activity

Identify and report problems

- Identify, recognise and escalate appropriately common problems

Use resources

- Including the correct utilisation and storage of tools, materials and equipment, and the lifting and moving of materials, components and equipment

Communicate effectively

- Use oral, written, electronic and IT based methods and systems for the accurate communication and reporting & recording of technical and other information, using correct terms, standards, templates and certifications.

Skills

In addition, for the discipline they are following, Operatives will have the following specific knowledge and skills regarding different techniques and methods used to construct, install, maintain and renew The Railway.

Track

■ Understand the relevant tolerances for track installation, specific methods and techniques for track inspection, maintenance and replacement, what constitutes a track defect or variation, track work instructions, hot weather restrictions and extreme weather plans. Able to restore track geometry faults by manual repair of assets as part of a team. Under direction, restore plain line track geometry, rail switches and crossings, and where appropriate conductor rail systems, to operational condition and maintain the track and its environment including vegetation and drainage

Electrification

■ Understand electrical and electronic principals. Under direction: assist in maintenance and installation of railway electrification equipment and components; assist in isolation and earthing of electrical systems at different voltages and frequencies, working on live battery & inverter systems and maintaining substation plant

Overhead Lines

■ Understand mechanical principles and construction design. Follow instructions to assemble overhead line components in line with detailed specification, using lifting and access equipment while working at heights

Signalling

■ Understand function and characteristics of railway signalling systems, including electrical, electronic and mechanical principles. Under direction: install & wire signalling or control systems; install position and label equipment & components & cables correctly; undertake installation integrity checks; assist in testing of components & equipment in accordance with test specifications & plans; maintain and rectify signal control systems equipment

Telecoms

■ Understand principles of electronic devices, circuits, data and communications equipment. Under direction undertake the activities of installation, planned preventative maintenance and maintenance testing activities on operational railway telecoms systems and establish compliance with drawings and specifications. Understand the types of operational constraints when carrying out telecoms installation and maintenance activities

Traction and Rolling Stock (T&RS)

■ Understand vehicle design, construction, maintenance and operation. Under direction, carry out preventative and scheduled maintenance activities and follow vehicle maintenance instructions on T&RS mechanical, electrical, fluid power and electronic communication equipment including ensuring vehicle trim, ancillary equipment and fittings are secured and in good order, check subsystems are operating correctly. Assist with the installation of T&RS equipment.

Behaviours

All Rail Engineering Technicians are expected to demonstrate the following behaviours

Act professionally

- Demonstrating dependability, determination, honesty and integrity. Respect others, act ethically and contribute to sustainable development

Be risk aware

- So as to help reduce risks by checking of information, concentration on the task, and awareness of changing circumstances on activity

Display a self-disciplined, self-motivated, proactive approach to work

- Able to make independent decisions whilst knowing one's limitations and when to ask for help or to escalate

Work reliably and safely

- Occasionally without close supervision, to approved industry standards and safe working practices.

Work effectively and efficiently, individually and as part of a team

- Maintaining effective relationships with colleagues, clients, suppliers and the public

Receptive to feedback

- Willing to learn new skills and adjust to change. Carrying out and record CPD necessary to maintain and enhance competence

Prepared to make a personal commitment

- To their employer, the industry and its professional standards

End Point Assessment

