



Higher Apprenticeship, Control/Technical Support Job Description Control/Technical Support Engineer, Level 6

(Job Code and Level: MFGMAI003.0)

Definition:

Learn to ensure that control systems and robotic equipment (including software programming) run to their maximum efficiency and output. This includes total preventative maintenance and managing day to day operations

Overall Purpose of the Role:

Undertake a programme of training to gain full working knowledge in all aspects of Control/Technical support including learning to diagnose faults leading to repair. Learn to respond to technical issues affecting control software systems to maintain production and maintain systems through Planned Preventative Maintenance (PPM). To assist and support with planned and reactive maintenance as well as liaise with internal stakeholders and subcontractors.

Duration:

Typically the duration of this apprenticeship is 5 to 6 years. This duration may be reduced for a candidate with previous relevant experience and/or someone already part qualified. Alternatively this may also be a progression route from a relevant Advanced Apprenticeship.

Key Responsibilities:

General and Task Management

- Control/Technical Support Engineers primarily assist the smooth running of manufacturing activity in activities such as maintenance
- Typically they work closely with other production roles in a fast-paced and cost-conscious manufacturing environment where complex problem solving is key

On successful completion, progress to develop skills in:

- Lead complex maintenance or technical support activities

- Carry out testing and calibration of instrumentation control equipment
- Carry out maintenance activities on electrical equipment
- Attend breakdowns, identify fault and problem solve with minimal downtime to production
- Carry out diagnosis of faults, the maintenance and repairs to all types of control systems in a safe, timely and professional manner and return equipment to operational service
- Upgrade and protect systems for new technologies and tools
- Issue, maintain, update and distribute technical data for control systems and panels
- Oversee electrical drawing control and vendor specific activity
- Estimate length of time required to complete a job and likely consequences of failure to complete work within required timescales
- Identify and escalate any activity that has the potential to cause harm or damage
- Assist with the moving, installation, repositioning of machines and equipment with control systems

Relationship Management

- Support technicians and engineers
- Liaise and communicate with other departments

Self Management

Occupational Behaviours: Modern high value engineering organisations require their apprentices to have a set of occupational behaviours that will ensure success both in their current and future roles and in meeting the overall company objectives. These required behaviours include:

- Safety mindset: This occupation sits within an industry with a high level of safety critical activities. There has to be strict compliance and a disciplined and responsible approach to manage, mitigate and avoid risk
- Strong work ethic: Positive attitude, motivated by engineering; dependable, ethical, responsible and reliable
- Logical approach: Able to structure a plan and develop activities following a logical thought process, but also able to quickly “think on feet” when working through them
- Problem solving orientation: Identifies issues quickly, enjoys solving complex problems and applies appropriate solutions. Has a strong desire to push to ensure the true root cause of any problem is found and a solution identified which prevents further recurrence
- Quality focus: Follows rules, procedures and principles in ensuring work completed is fit for purpose and pays attention to detail / error checks throughout activities
- Personal responsibility and resilience: Motivated to succeed accountable and persistent to complete task
- Clear communicator: Use a variety of appropriate communication methods to give/receive information accurately, and in a timely and positive manner
- Team player: Not only plays own part but able to work and communicate clearly and effectively within a team and interacts/ helps others when

required. In doing so applies these skills in a respectful professional manner

- Applies Lean Manufacturing Principles: Continuous improvement in driving effectiveness and efficiency
- Adaptability: Able to adjust to different conditions, technologies, situations and environments
- Self-Motivation: A 'self-starter', who always wants to give their best, sets themselves challenging targets, can make their own decisions.
- Willingness to learn: wants to drive their continuous professional development
- Commitment: Able to commit to the beliefs, goals and standards of their own employer and to the wider industry and its professional standards

Skills and Attributes:

During the foundation stage the apprentice must develop a solid grasp of the core mechatronics engineering skills. These skills will not only prepare the apprentice for the workplace in demonstrating that they have the required basic skills to do their core role but their competencies are stretching and transferable and can be built upon over time. The skills required are:

- Comply with statutory regulations and stringent organisational safety requirements
- Use and interpret a range of engineering data sources and documentation
- Understand key performance indicators and utilise lean techniques to improve efficiency and effectiveness
- Support installation, testing and commissioning of a wide range of equipment as needed
- Carry out complex fault diagnosis and repair on high technology engineered systems
- Maintain mechanical, fluid and pneumatic power equipment
- Maintain electrical, electronic and process control equipment
- Minimise machinery downtime by carrying out preventative planned maintenance
- Confirm testing and subsequent smooth hand over of equipment and plan

During the development stage they would hone and deepen their general engineering skills, along with maintenance and manufacturing principles and their applications in industry, investigation and interrogation skills for software applications. With all of these skills, they will be using a logical and systematic approach.

Qualifications and Experience Levels:

- Individual employers will set the selection criteria for their Apprenticeships. In order to optimise success candidates will typically have 5 GCSE's at Grade C or above, including Mathematics, English and a Science, Technology or Engineering related subject, as well as A Levels

at grade C or above in both a Mathematical based subject and a Science, Technology, Engineering or additional Mathematics related subject, or 90+ credits in an Engineering BTEC or completion of an Apprenticeship in Mechatronics Maintenance

- The apprentice would complete a HND or Foundation Degree which would provide the foundation stage of the knowledge elements in the competence qualification. It will support the fundamental scientific and mathematical principles that equip apprentices with the understanding required to operate effectively and efficiently at high level within this sector. As a core the engineer needs to cover around 960 academic Guided Learning Hours, in order to have a solid grasp of:-
 - Analytical, mathematical and scientific methods for engineers
 - Project design, implementation and evaluation
 - Instrumentation and control principles and applications
 - Mechanical, electrical, electronic, process control and digital principles and applications
 - Applications of pneumatics and hydraulics
 - Health, safety and risk assessment in engineering
 - Industrial control systems and applications
 - Materials and manufacturing processes
 - Product improvement and engineering project management

For the Development Phase the apprentice will build on their Foundation knowledge by completing a BSc (Hons) or BEng (Hons) in Engineering. Here they will expand their understanding to a higher level and commence on specialised modules during the latter part of this qualification.

Further Information:

<https://www.gov.uk/government/publications/apprenticeship-standard-controltechnical-support-engineer>

Example roles this job description may cover:

- Graduate Control/Technical Support Engineer
- Placement Trainee Control/Technical Support Engineer