

Apprenticeship Standard for Land-based Service Engineering (LBSE) Technician

Level 3 Advanced Apprenticeship Standard

Occupation: Land-based Service Engineering (LBSE) Technicians provide advanced technical support and guidance across a diverse range of plant and equipment some of which may be specific to one or more of the following industry sectors: Agricultural, Horticultural, Professional Turf, Fixed Plant, Outdoor Power, and Forestry Equipment.

Overview of Role: LBSE Technicians are expected to be involved in all aspects of:-

- Preparation of machinery, plant and equipment and the verification of its optimum performance.
- Installation and handover of new machinery, plant and equipment to the end user.
- Conducting scheduled maintenance operations, safety inspections and the compilation of machinery condition reports.
- Diagnosis of complex faults in machinery, plant and equipment.
- Compilation of repair proposals and the implementation of timely and cost effective repairs.

This requires a blend of skills, knowledge, and safe working and environmental practice capabilities spanning, power units, power trains, fabrication, mechanical, electrical, electronic, mechatronic, hydraulic and pneumatic system applications. The nature of the industry will present technical challenges ranging from simple mechanics to diagnosis and repair of complex electronic, mechatronic and telemetry systems. These operations may take place in the employer's workshop or on the customer's site, requiring flexible working in line with seasonal requirements. Additionally, as a senior technician, they will be responsible for mentoring colleagues, for example supervision of junior colleagues; and customers on the selection and application of plant and equipment.

Entry requirements: Employers will set the selection criteria for apprentices; typically this requires achievement of 4 GCSE's at Grade C or equivalent and will include English, Mathematics and a Science subject. In addition to these subjects it is desirable that the candidate has a basic understanding of the application of Information and Communication Technology (ICT). Typically the advanced apprenticeship will take 36 to 48 months. Alternatively candidates possessing a Level 2 Diploma in Land-based Engineering or those transferring into the industry with relevant experience will be eligible for acceptance.

Knowledge: The academic learning delivered to underpin the vocational knowledge will allow the LBSE Technician to develop their capabilities as technology and innovation advance. It will equip them to demonstrate a thorough breadth and depth of understanding relevant to the industry sector they work within.

- Compliance with environmental, safe working and relevant legislation policies and practices.
- Ownership and application of procedures (company, client, Health & Safety).
- How to communicate effectively using a range of techniques.
- The identification and correct application of tools and equipment used within the profession.
- Methods of thermally and chemically joining metals and components.
- Advanced technical and engineering principles of land-based engineering machinery, plant and equipment.
- Service, maintenance and repair principles and practices for complex machinery, plant and equipment.
- How to access, interpret and apply information and technical data on current and emerging products.
- Techniques used in logical fault diagnosis, and verification of machinery, plant and equipment performance.
- Working effectively and efficiently including accessing Continual Professional Development materials.

Skills: LBSE Technicians will need to demonstrate the logical application of core skills in a systematic approach whilst demonstrating dexterity, resourcefulness and best practice. They will need to be capable of the following:

- Access and interpretation of technical data and documentation.
- Effective communication and customer care.
- Work efficiently and effectively both as an individual and a team member.
- Installation and handover of machinery, plant and equipment, and verification of equipment performance.
- Carry out complex diagnostics, repair and re-instatement of complex machinery, plant and equipment, and verify conformity to manufacturer's specification
- Maintain and repair of power units, power trains, mechanical equipment, plant, machinery and their components.
- Maintain and repair of hydraulic and pneumatic systems and their components.
- Maintain, interrogate and calibrate electronic systems, laser guidance, and electrical circuits.

- Maintain and repair of, as appropriate to the industry sector, cutting, processing, harvesting, chemical and fertiliser application, transport and materials handling, storage, cultivation and lifting equipment.
- Minimise machinery, plant and equipment downtime by carrying out diagnostic and preventative maintenance efficiently and effectively.

Occupational Behaviours: Today's land-based service engineering businesses require Advanced Apprentices possessing a diverse set of occupational relevant skills, knowledge and disciplines that will ensure success both in current and future roles equipping them to meet the overall company objectives. These required disciplines include:

Safety Orientation:	This occupation operates within an industry with a high exposure level to safety critical activities. There has to be strict compliance and a disciplined approach to identifying, managing, mitigation and avoidance of hazards for both safety and the environment.
Strong Work Ethic:	Positive attitude, motivated by service engineering, dependable, ethical, responsible and reliable.
Problem Solving:	Enjoys complex problem solving being able to identify issues quickly and to apply appropriate solutions. Has the ability to establish the root cause of the problem to prevent further re-occurrences rather than to repair the results of the problem.
Logical Approach:	Able to apply a logical thought process to structuring and implementing an efficient action plan to meet customer and company expectations.
Quality Focused:	Follows procedures and approved engineering principles to ensure work completed is fit for purpose and inline with manufacturer's specifications. Pays attention to detail and applies approved verification checks throughout work activities to ensure compliance.
Personal Responsibility:	Motivated to succeed accountable and committed to completing a task.
Good Communicator:	Able to use a variety of appropriate communication methods to express and receive information accurately in a timely, factual and positive manner.
Team Player:	Not only able to work on own initiative but also able to interact and communicate effectively within a team applying a respectful professional manner.
Contributor to Profitability:	Continuously strives to identify and apply increased efficiency opportunities and activities.
Adaptability:	Able to adapt to change in conditions, technologies, situations and working environments
Self-Motivation:	A motivated self-starter who wants to give their best, relishes new challenges who can work on their own initiative.
Willingness to Learn:	Wants to stretch and drive their Continuous Professional Development.
Commitment:	Able to commit to the objectives of their employer and to the wider professional standards of the industry.

Training and Development Summary

The LBSE Technician Apprenticeship combines advanced technical and service engineering skills and application of knowledge with industry specific requirements. Apprentices will undergo a combination of intensive off-the-job training for approximately twenty per cent of their apprenticeship focusing on developing underpinning core skills, knowledge and behaviours linked to their work place. This allows development of the apprentice who can work effectively under supervision in simulated working conditions within the training provider's facilities.

The apprentice's on-job vocational competence will eventually enable unsupervised working and a level of transferable competency allowing adaption to new working practices, advancing product design and new technologies with the appropriate training.

Upon completion, the apprentice will gain a Level 3 Diploma in Land-based Engineering in addition to Emergency First Aid, Abrasive Wheels and Fork Lift Truck Handling certificates.

Professional Recognition and Career Progression

Completion of this Advanced Apprenticeship Standard will be recognised by the Institution of Agricultural Engineers (IAgrE) as the evidence required for Engineering Technician (EngTech) registration. For those wishing to advance their career and professional standing the land-based engineering industry offers the opportunity to advance through a career development path known as the Land-based Technician Accreditation Scheme (LTA) and the LTA (MEA) Parloursafe Accreditation Scheme.

Review: The apprenticeship will be reviewed after a maximum of 3 years.

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