



## **Employer Guidance**

### **Land-based Service Engineer Level 2**

### **Apprenticeship Standard**

**ST0242/AP02**

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## Introduction

Employers have designed a new apprenticeship standard for service engineers. This includes those who typically work within land-based, agricultural, construction and plant, outdoor power equipment, forestry or fixed plant machinery and equipment occupations. The machinery and equipment within these occupations vary from:

Agricultural Equipment:

Tractors, cutting and mowing, harvesting and processing, soil preparation and plant establishment and transport handling and storage.

Construction Plant Machinery:

Excavating and compacting, transporting and lifting, piling plant and equipment, drilling, blasting and pumps.

Service engineers work in a large range of environments including dealerships that focus on specific brand(s) or for independent companies that maintain and repair all makes of machinery.

It is anticipated around 750 Apprentices will graduate from level 2 land-based engineering apprenticeship programmes every year. There are around 3,000 workshops managed by companies that range from multi-million pound trans-national dealer groups through to an owner-manager employing a handful of people.

In addition to the above complexities, there are several different training models that include residential block release programmes devised and operated by global land-based machinery manufacturers and day release courses provided by local colleges and training organisations.

Accountability for assessing the competence of the Apprentice in the workplace will transfer from the training organisation to employers. Employers will have primary responsibility for monitoring and analysing the Apprentice's progress and deciding when the Apprentice is ready to take the End Point Assessment, with support from the training and assessment organisations.

All formal qualifications have been removed, however employers may request their Apprentice to complete a level 2 diploma in land-based technology during the course of the apprenticeship standard.

This document is to be used as a guide and will provide you with an overview of what is to be expected throughout the duration of the apprenticeship. Additional documentation has been provided for Apprentices.

## Roles and Responsibilities

### Employer/ Mentor

- Will assist with workplace training and the collection of evidence for the eLogbook
- Will assess and pass judgement on progress throughout the apprenticeship
- Coordinate with the training organisation to confirm that all the requirements to proceed to End Point Assessment have been met

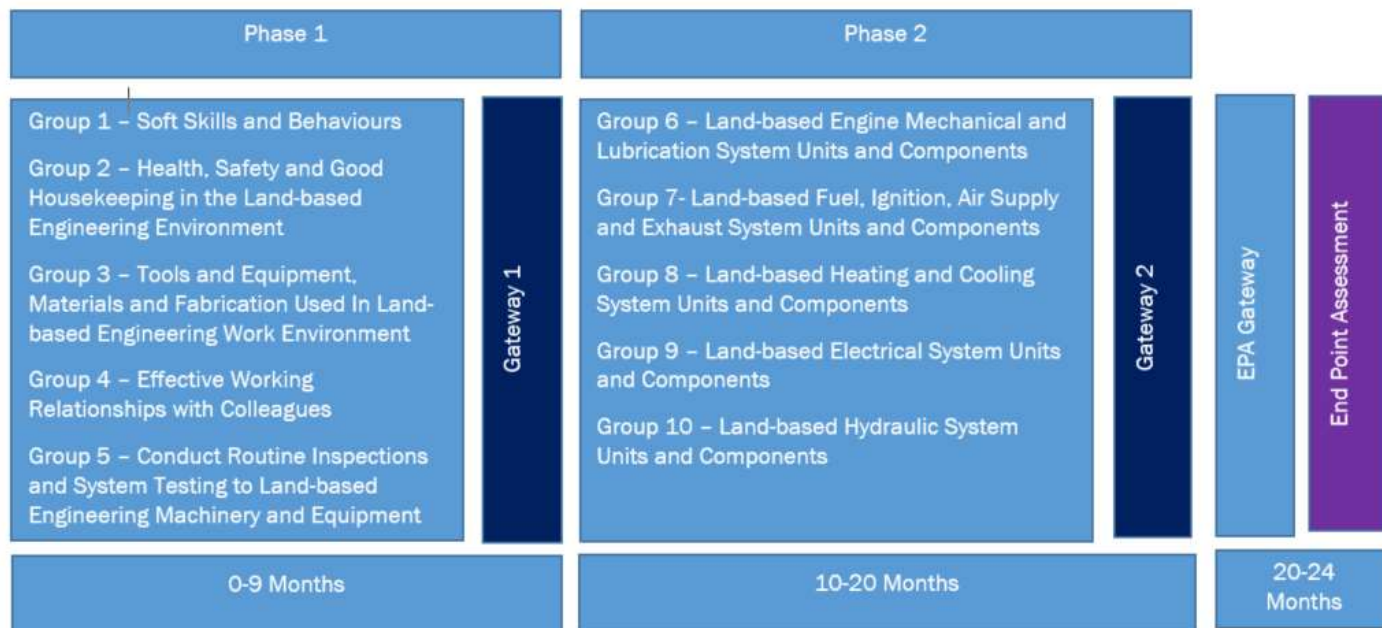
### Training Organisation

- Responsible for the coordination of the apprenticeship with the employer, mentor and the IMI
- They will provide all of the required off-the-job training and assessment as outlined in the apprenticeship standard and allocate an assessor
- Will arrange for registration of the apprenticeship and the End Point Assessment

### Assessment Organisation

- The IMI provides the training organisation with all the assessment documentation
- Will ensure that the assessment of the apprenticeship meets the standard as set out by the governing body in charge of maintaining the apprenticeship standard
- Will oversee final End Point Assessment and have the final say on overall apprenticeship result and grade

## Apprenticeship Structure



**Group 1** – This group sets out the soft skills and behaviours and provides the framework that will provide the basis for the approach to assessment.

**Group 2** – Mandatory Health and Safety, housekeeping and good practice within the land-based engineering environment.

**Group 3** – Working with tools and equipment safely and efficiently to achieve fabrication and basic maintenance tasks.

**Group 4** – Working with others and maintaining effective working relationships using appropriate communication and information sources.

**Group 5** – Complete a range of routine services and identify the difference between good and possibly faulty components.

**Group 6** – Identify the function and operation of land-based engine mechanical components and systems. The apprentice will identify broken or heavily worn components and remove and replace these as part of daily maintenance activities.

**Group 7** – Identify the function and operation of land-based fuel, ignition, air and exhaust components and systems. The apprentice will identify broken or heavily worn components and remove and replace these as part of daily maintenance activities.

**Group 8** – Identify the function and operation of land-based heating and cooling components and systems. The apprentice will identify broken or heavily worn components and remove and replace these as part of daily maintenance activities.

**Group 9** – Identify the function and operation of land-based electrical components and systems. The apprentice will identify broken or heavily worn components and remove and replace these as part of daily maintenance activities.

**Group 10** – Identify the function and operation of land-based hydraulic components and systems. The apprentice will identify broken or heavily worn components and remove and replace these as part of daily maintenance activities.



## eLogbook

The eLogbook is a tool that is provided by the IMI for the Apprentice to record their workplace evidence as outlined in this document. It is their responsibility to upload this evidence and their workplace mentor and employer's responsibility to confirm that this evidence is valid and authentic.

The types of evidence that can be upload include (but are not exclusive to):

- completed workplace job cards
- completed service schedules / inspection sheets
- written procedures
- technical drawings / images
- diagnostic readouts and reports
- machinery testing related data
- technical data specifications
- pictures
- video clips
- audio clips
- witness statements / testimonies

The IMI's eLogbook will ensure access to assessments and personal information is only viewed by the appropriate parties.

Further tutorials and sample evidence can be found online within the eLogbook system in addition to the information provided within this document. The links for these tutorials will be provided on registration.

## Soft Skills and Behaviour Assessment

The soft skills and behaviour assessment is a tool that is provided by the IMI to score and assess the Apprentice against the soft skills assessment criteria as outlined in Group 1.

This will enable the Apprentice to collect key evidence to support their professional interview which will take place during the EPA.

Responsibilities for completion and review of this assessment are outlined in the "Roles and Responsibilities" section of this document.

## Phases and Gateways

**Phase** - A phase is the timeframe between the major assessment points or gateways. The IMI have provided gateways to support and assess Apprentices to check their progress throughout the apprenticeship.

Phase 1 – From apprenticeship start to Gateway 1

Phase 2 – Between Gateways 1 + 2

During these phases the Apprentice will be required to keep a log of progression throughout to evidence their journey. This will be reviewed and assessed by the workplace mentor and training organisation before the EPA gateway can be taken.

**Gateways** - Are the points within the apprenticeship standard that must be passed to proceed onto the next phase. There are three gateways within this apprenticeship standard:

Gateway 1 – Following completion of phase 1

Gateway 2 – Following completion of phase 2

EPA Gateway – Eligibility check to enable the Apprentice to enter EPA

Assessments will be carried out on knowledge, skills and behaviour and soft skills as delivered by the training organisation during the prior phase.

## Gateway Skills and Knowledge Tests

At each of the gateways specified earlier in this document, Apprentices undertake set assessments to ensure competence and readiness to progress onto the next phase.

The skills assessments will be carried out at either the training organisation or in the workplace (if previously agreed).

### Skills Assessment Specification:

Gateway 1 Skills Tests	Gateway 2 Skills Tests
Conduct a routine pre or post-delivery inspection Engineering assessment task: <ol style="list-style-type: none"> <li>make a 'P' clip for a hydraulic pipe</li> <li>thread a blind hole in a metal bar</li> <li>remove a 'snapped' bolt from a metal bar</li> </ol>	Carry out one rectification task to each machine system: <ol style="list-style-type: none"> <li>engine system (either: cooling, fuel, lubrication or exhaust)</li> <li>electrical system (either: starting, charging, auxiliary)</li> <li>hydraulic system</li> </ol>

### Online Test Specification for Gateways:

Test reference	Test description	Number of questions	Duration	Pass mark	Merit	Distinction
ST0242-02GW1K	Gateway 1 Knowledge Assessment (covering groups 2-5)	40	60	65%	75%	90%
ST0242-02GW2K	Gateway 2 Knowledge Assessment (covering groups 6-10)	40	60	65%	75%	90%

\*NOTE: Group 1 Soft Skills and Behaviours will not form part of the Gateway knowledge assessments. It is recommended that reviews take place between the apprentice, training provider and mentor at Gateways, using a soft skills and behaviour assessment tool to ensure the requirements are met.

## EPA Gateway Requirements

Once an employer is satisfied the Apprentice has demonstrated full competence and that all criteria of the standard have been met, the Apprentice can progress to the End Point Assessment via the apprenticeship gateway, which is a decision point.

Before an Apprentice can pass through the gateway (decision point) for End Point Assessment, they must have achieved:

- Level 1 in English and Mathematics. Those that have not already achieved Level 2 in English and Mathematics must have taken a GCSE or Functional Skills Level 2 accepted test/examination. For those with an education, health and care plan or a legacy statement, the Apprenticeship’s English and Mathematics minimum requirement is Entry Level 3 and British Sign Language qualifications are an alternative to English qualifications for whom this is their primary language
- A log of progression
- A formal gateway meeting between the Apprentice and the employer to determine the Apprentice’s readiness for End Point Assessment



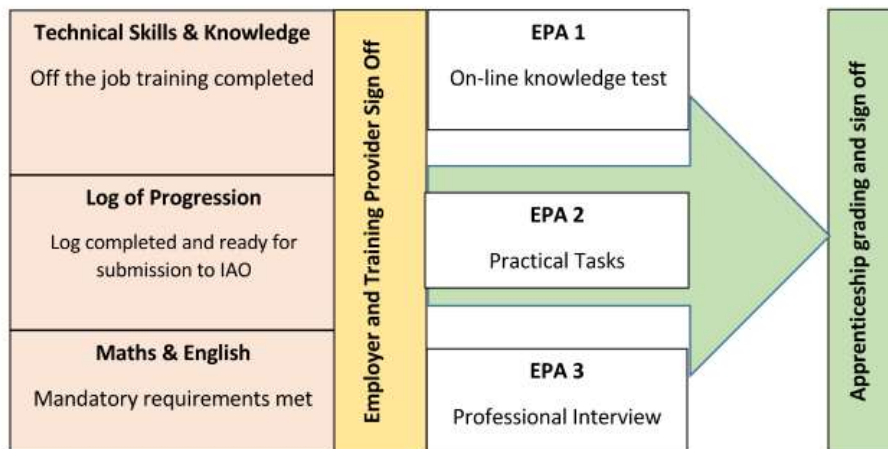
## End Point Assessment (EPA)

The EPA consists of the following 3 distinct elements which are equally weighted and to be completed in the sequence below.

1. Online Knowledge Test
2. Practical Tasks
3. Professional Interview

All 3 elements of the assessment are to be undertaken within 6 months of the achievement of the gateway within the apprenticeship. A minimum of a 'pass' is to be achieved before progressing to the next element of the EPA.

**The Gateway to Assessment**



The End Point skills and professional interview will be directly observed by an Independent Assessor provided by the IMI.

The overall grading will be overseen and assigned by the IMI.

## Online Knowledge Test

The online knowledge test takes the form of one invigilated online test. This test will include questions from each land-based machinery system group that has been taught during each phase. Each multi-choice question offers a choice of 4 responses with only one answer being correct.

The knowledge examination is a test each Apprentice has to undertake and comprises of the following:

Test reference	Test description	Number of questions	Duration	Pass mark	Merit	Distinction
STO242/O2EPA1K	Knowledge End Point Assessment	45	90 minutes	65%	75%	90%
<b>Note: The online test covers content from Groups 2-10 under the topics of:</b>						
Health, Safety and Legislation						
Tools and Equipment						
Information, Reporting and Communication						
Maintenance, Repair and Diagnosis						
Fabrication and Repair						
Preparation and Handover						

The IMI provides and marks this online test through its website, [www.theimi.org.uk/awarding](http://www.theimi.org.uk/awarding). In the **Centres** section of the website, you will find an **online assessment section**. This section provides a demonstration assessment for an Apprentice. They will require passwords from an assessor to be able to try this demonstration test.

## Practical Tasks

The practical tasks (skills assessments) will be carried out at either the training organisation premises or in the workplace by an approved Independent Assessor allocated by the IMI.

There are three practical task observations each Apprentice must complete during their practical task section of the EPA.

**Mandatory Observation A:** requires each Apprentice to demonstrate their competence in carrying out an inspection to a self-propelled land-based machine and reporting defects found; this activity will last 105 minutes.

**Selected Observation B:** the two remaining observations will be selected by the IMI from two of the following:

- a. Engine systems
- b. Electrical systems
- c. Hydraulic systems

Both observations will last up to 105 minutes and will require the Apprentice to demonstrate competence in either maintenance or straight forward diagnosis of engine, electrical or hydraulic systems.

The Apprentice is also required to answer 'standardised' questions relating to both observations selected which will be asked and recorded by the EPA further demonstrating the Apprentice's underpinning knowledge on the task completed.

## Professional Interview

The structured professional interview based around the contents of the Apprentice's 'log of progression' takes place between the Apprentice and the Independent Assessor. It is essential therefore that arrangements are made to ensure that the log of progression is made available to the IMI at least two weeks prior to the Professional Interview EPA. Wherever possible the Independent Assessor will be the same person who conducted the observations.

The Independent Assessor will ask the Apprentice questions in relation to:

- behaviours
- the period of learning, development and continuous assessment (log of progression)
- coverage of the standard
- personal development and reflection
- continuous Professional Development
- customer interaction

The Apprentice will be informed of the requirements prior to the interview, and will refer to any relevant workplace evidence which they can provide at least 10 days in advance at the request of the Independent Assessor.

Detailed assessment documentation will be provided by the training organisation on registration of the Apprentice.

## End Point Assessment Grading

This apprenticeship standard is graded: Fail / Pass / Merit / Distinction

Independent Assessors will review the results of the following assessment types and issue a grade according to the scores highlighted in the table below.

Individual EPA element grade achieved	Points awarded
Pass	1
Merit	2
Distinction	3
Apprenticeship Grading	Final grading points
Pass	3-5
Merit	6-7
Distinction	8-9

Final grading score boundaries:

Examples of final grading calculation:

Online Knowledge Test	Practical Tasks	Professional Interview	Total Points	Final Grading
Pass = 1	Pass = 1	Merit = 2	4	Pass
Distinction = 3	Merit = 2	Pass = 1	6	Merit
Distinction = 3	Distinction = 3	Merit = 2	8	Distinction