

EPA Plan for

# Land-based Service Engineering

Level 3

**Technician**

## Summary of Assessment

The apprentice will typically spend between 36 - 48 months on-programme working towards the apprenticeship standard, with a minimum of 20% of this time being spent in off-the-job training. The period of the apprenticeship may be reduced for those holding relevant qualifications or a level 2 apprenticeship meeting the employer's selection criteria

This document sets out the requirements for end-point assessment (EPA) of the land-based service engineering 'Technician' apprenticeship standard. It will be of interest to employers, apprentices, training providers and end-point assessment organisations.

The EPA cannot be undertaken until the employer has sanctioned that the apprentice has developed all the knowledge, skills and behaviours defined in the land-based service engineering 'Technician' apprenticeship standard.

The EPA will be completed by the apprentice at a time determined between the employer, training provider and the Independent Assessment Organisation (IAO) who between them will consider their respective schedule of commitments, the seasonal demands and geographical locations.

The EPA may only be conducted by an Ofqual registered independent assessment organisation (IAO) approved to deliver the end-point assessment for this apprenticeship selected from the Education and Skills Funding Agency's Register of Apprentice Assessment Organisations. (RoAAO)

This stipulation is made because Ofqual will deliver the external quality assurance for this apprenticeship standard.

The EPA consists of (3) distinct elements which are to be completed in the order below

1. On-line Knowledge EPA
2. Practical Tasks EPA
3. Presentation and Professional Interview EPA

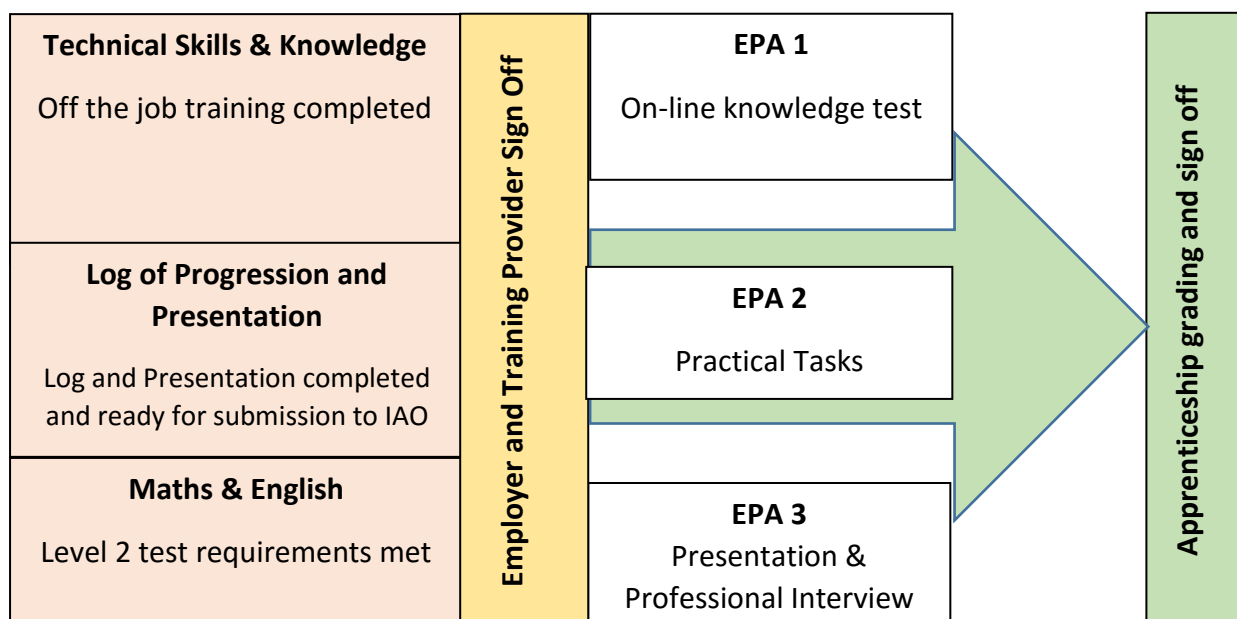
The apprentice's performance in the EPA will be graded using the following grades;

- The On-line Knowledge EPA graded Fail / Pass / Merit / Distinction
- The Practical Tasks EPA graded Fail / Pass / Merit / Distinction
- Presentation and Professional interview EPA graded Fail / Pass / Merit / Distinction

The overall grading of the apprenticeship will be determined by the apprentice's performance in the 3 equally weighted elements of the EPA and evaluated in line with the Independent Assessment Organisations Quality Assurance policies. With external quality overviews being provided by Ofqual the appointed EQA body for this apprenticeship standard.

A fail in any one of the assessment elements will constitute an overall failure to achieve the apprenticeship sign off.

### The Gateway to Assessment



### Assessment Overview

Assessment Element	What is Assessed during the EPA
On-line Knowledge Test EPA	Knowledge
Practical Tasks EPA	Knowledge, Skills and Behaviours
Presentation and Professional Interview EPA	Knowledge, Skills and Behaviours

- All EPA Elements are to be assessed by an Independent Assessment Organisation
- Each EPA element is graded with the judgement being Fail / Pass / Merit / Distinction
- All assessments have equal weighting in the overall grading of the apprenticeship

### On Programme Requirements

- The Log of Progression

In order to accurately reflect upon development it is required that apprentices compile a log of progression throughout their apprenticeship evidencing their journey. Typically the evidence will detail the development of knowledge, skills and behaviours and include records of regular reviews with the employer and training provider conducted in the workplace.

The reviews conducted by the employer and training providers are to include comment on the following;

- Personal behaviours and attitudes, e.g. appearance, attendance, punctuality, engagement with the learning process, the group, and the quality of work produced
- Strengths and weaknesses highlighting areas of excellence and those requiring attention in both practical and academic areas of learning
- The progress made in meeting the scope of the apprenticeship standards
- Recommendations on areas within the apprenticeship learning that need to be addressed

To fulfil this requirement the training provider will be required to liaise with the employer and visit the apprentice in the workplace. The frequency of these visits to be determined between the employer and training provider upon negotiation of the apprenticeship delivery.

The Presentation and Professional Interview EPA will be based around the contents of each apprentice's presentation and 'log of progression' ***It is essential therefore that arrangements are made to ensure that the presentation and log of progression is available to the IAO at least two weeks prior to the Presentation and Professional Interview EPA***

Recommendations outlining the off the job training requirements for this apprenticeship can be found in the 'Occupation Brief' which may be accessed by visiting [www.landbasedengineering.com](http://www.landbasedengineering.com)

### **Assessment gateway**

The EPA may only commence once the employer is confident that the apprentice has developed the knowledge, skills and behaviours defined in the apprenticeship standard and the following criteria is in place.

- Log of progression completed and presentation evidence collected and ready for submission to IAO
- English and mathematics level 2 requirements have been met prior to taking the end point assessments

It is advised that land-based engineering employers make this decision in conjunction with the training provider. The employer however has the final decision.

Having achieved the gateway the EPA assessments are to be undertaken in the sequence as detailed below.

- 1) On-line test
- 2) Practical tasks
- 3) Presentation & Professional interview

All three 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 assessment.

### **End Point Assessment (EPA)**

The parameters of each EPA element will be set by the appropriately registered Independent Assessment Organisation using guidance from this assessment plan

#### **What is to be assessed?**

The combination of the 3 forms of EPA are designed to test the knowledge, skills and behaviours detailed in the published standard and Annex A of this document to the extent that the Independent Assessment Organisation is satisfied that the apprentice is competent in their occupation.

The End Point Assessments are designed to test a cross section of areas of knowledge, skills and behaviours within the standard however it is accepted that EPA's may not cover every aspect of the standards

The Practical Tasks are formulated to test, practical skills, knowledge and the behaviours necessary to safely and effectively carry out physical tasks relative to the job role to a professional standard

The Presentation and Professional Interview is employed to demonstrate the ability to communicate / express original thought and opinion, reflect upon personal development, evaluate industry knowledge and the personal behaviours listed in the standard.

#### **How will it be assessed?**

Apprentices attending the EPA elements will be required to present themselves for assessment equipped with;

- Means to confirm their identity. (All elements of the assessment)
- Overalls and protective footwear (Practical task assessments)
- Writing materials (Practical task assessments)
- Please note that mobile phones are not permitted in any of the assessments and must be handed to the independent assessor or left in a secure place.

Apprentices are not to have prior notification of the specific content of the assessment tasks and tests, these are to be revealed on the day of assessment.

**On-line Knowledge EPA**

Question types to be set		Number of questions	
Multi Choice each offering 4 answer options		<b>6</b>	
Short Answer		<b>12</b>	
Structured Answer		<b>12</b>	
Total numbers of questions to be answered		<b>30</b>	
Maximum duration of the on-line test		<b>1 hour 30 minutes</b>	
Grading			
Fail below 64%	Pass 65 – 74%	Merit 75 – 89%	<b>Distinction 90%</b>

The Online Knowledge Test will consist of a mix of 3 question types, these will include multiple choice, short answer and structured answer questions.

Marks awarded for each question will depend on the question type. Multi-choice questions attracting a single mark for a correct answer whilst short answer and structured answer questions are to attract a multiple of marks to be determined by the assessment organisation to facilitate marking of partially correct answers.

The test will be taken under controlled conditions defined by the Independent Assessment Organisation

On-line knowledge assessments are to be conducted using a closed book policy

- The (IAO) question bank is to contain a minimum of 140 questions relating to the land-based engineering 'Service Engineer' standards
- The question bank is to cover the scope of the apprenticeship standard however it is accepted that individual tests may not cover every assessment criteria within the standard.
- The questions presented in each On-line Knowledge EPA are to be randomised and drawn from the question bank ensuring that each apprentice's test is unique
- Question banks are to be reviewed every 3 years.

Grading of the on-line knowledge EPA will be established by a calculation of the marks awarded to questions answered expressed as a percentage of the total marks available and grading awarded as detailed in the grading matrix above.

It is expected that the (IAO) will make the results of the on-line test available within 14 days of the test.

Examples of questions types and knowledge levels might be;

- What is the correct formula for calculating amperage?
- What shape is the current signal created by a Hall Effect Sensor?
- When using a multi-meter to measure current flow through a switch, how should the multi-meter be connected to the circuit?
  - a) In series with the switch
  - b) In parallel across the switch
  - c) Positive to negative terminals on the switch
  - d) Between the battery positive and negative terminals
- Create an open-centre hydraulic circuit schematic drawing by dragging and dropping the correct hydraulic symbols and placing them into the circuit diagram in the correct sequence. The circuit is to include a pump, PRV valve, suction filter, high pressure filter, cooler with bypass valve, a double acting spool valve and

### Practical Tasks EPA

Duration of the complete Practical Task EPA		1 x 6 Hour Day	
Number of tasks contained within the Practical Task EPA		3	
Maximum duration of each of the practical tasks		1 Hour 45 Minutes	
Grading			
Fail	Pass	Merit	Distinction

The Practical Task EPA is to be conducted by:

- An \*assessor qualified to the level of the standard with relevant experience and expertise associated with the roles in the standard.
- The EPA will be undertaken in controlled conditions meeting the IAO's quality assurance measures.

\*Assessor(s) conducting the assessment may be called upon to;

- undertake the customer's role in tasks e.g. explaining symptoms, or giving verbal instructions as detailed in the IAO documentation
- Ask the apprentice standardised questions developed by the assessment organisation relating to the task being undertaken to gain an insight into the apprentices reasoning and knowledge.

### What an EPA Practical Task scenarios may look like

1.The customer has complained that the steering system on a land-based engineering vehicle has become very heavy to operate, a technician has been called and has a brief to diagnose the failure and report back to the customer. The task is to include the diagnosis of the fault and compilation of a report detailing;

- Reference data and diagnostic test results used
- The repair options and the recommended course of action to be taken
- Consideration of the explanations for the root cause of the fault
- Recommendations on how to avoid a reoccurrence of the fault

2. Assess a used machine and compile a condition report detailing the repairs necessary to reinstate it to good working order

3. Isolate an electrical fault on a machine using the aid of complex wiring diagrams and diagnostic equipment.

Examples of questions an assessor may ask the apprentice during the course of a practical task EPA;

- What tests are to be applied to locate the fault and why select these tests?
- Can you give me 3 examples of open questions that you might ask the customer to help with establishing the diagnosis of the fault?
- When diagnosing an intermittent fault what methods can be used to establish the cause of the fault?

**It is recommended that the Practical Task Assessment Facility is equipped with;**

Exhaust extraction equipment, First Aid Kit, Fire extinguishers	
Diagnostic equipment	Electrical and pressure testing equipment, Generic diagnostic platform,
PPE equipment,	Safety glasses, gloves, respiratory masks etc
Comprehensive set(s) of hand tools	Hand tools commensurate with the tasks to be undertaken
A range of internal and external measuring equipment	Vernier, micrometre, dial test indicator
Lifting & jacking equipment	Trolley and bottle jacks, Axle stands, engine /wheel crane, lifting slings and chains.
Oil drain tins	Measuring jugs, funnels
Sundry workshop tools	Workshop equipment and special tooling to facilitate the tasks being undertaken
Degreasing / cleaning facilities	Parts wash
Access to reference data relevant to the tasks	Technical reference documentation
Cleaning materials	Cleaning cloths /tissues, broom, shovel, spillage materials, waste bin
Screening to separate workshop areas	Separate work stations with work bench and access to a writing area
Workshop sundries	Insulation tape, sealants, electrical wire and wiring connectors split pins, washers sundry fasteners etc



It is recommended that the assessment is conducted within a training provider's facility away from the apprentice's workplace to avoid distractions. The Independent Assessment Organisation may sanction the use of other facilities which meet their quality assurance requirements.

During the course of each practical task apprentices will be assessed on their skills, knowledge and performance as appropriate to the task. Refer to Annex 1.

The Independent Assessment Organisation will supply the guidance documentation required to support the EPA together with a marking matrix for the assessor to apply

### **Presentation & Professional Interview EPA**

Maximum Duration of the Presentation		<b>15 minutes</b>	
Maximum Duration of the Professional Interview		<b>60 minutes</b>	
Grading			
Fail	Pass	Merit	Distinction

### **The presentation (Maximum Duration 15 minutes)**

The apprentice is required to produce a presentation related to the industry sector worked within. The presentation is to be based on achieving the optimum performance from a machine of choice and may contain the machines working principles, analysis of factors influencing performance and how to achieve verification of performance.

Preparation of the presentation is not part of the on-programme delivery and requires compilation off-programme. Compilation of the presentation is to start three (3) months prior to completion of the off the job training and the finished work available in time to achieve the assessment gateway

The apprentice will be required to deliver the presentation immediately before the Professional interview takes place and may choose to deliver the presentation with or without the aid of Power Point or a flip chart. The Employer must ensure that when making arrangements for the Presentation and Professional Interview with the Assessment Organisation that the presentation is available to deliver and that the Assessment organisation are aware of the supporting equipment required.

- **The Professional Interview**

The Professional Interview is an in depth discussion based on the Presentation and Log of Progression structured appropriately to draw out the best of the apprentice's energy, enthusiasm, competence and excellence.

- The interview is to be conducted by the Independent Assessment Organisation in controlled conditions affording an appropriate environment.
- At the discretion of the Independent Assessment Organisation they may conduct the Professional Interview either through physical attendance or by employing technology to enable a remote interview to be conducted.
- In both cases mentioned above the Independent Assessment Organisation will specify the procedures required to satisfy their quality assurance responsibilities

Examples of the types of question that may be asked within the Professional Interview;

- What are the 5 steps to risk assessment?
- Within the context of the apprenticeship standards describe an area of weakness in your knowledge and what actions you propose to rectify this?
- Why is customer care essential to the your employers business?
- Why is it important to determine the difference between the cause and effect of a failure in machinery and equipment?
- Can you describe how climatic and operating conditions may affect the performance of machinery and equipment working within your sector of industry?

Wherever possible the Independent Assessment Organisation assessor should be the same person who conducted the Practical Tasks EPA.

The Independent Assessment Organisation may elect to use a single assessor to carry out the Professional Interview or at their discretion use an assessor together with one or more independent persons with professional competence within the scope of the Land-based Service Engineering 'Service Engineer' standards.

In all Professional Interview scenarios the Independent Assessment Organisations appointed assessor has the casting vote on the outcome of the Presentation and Professional Interview and grading awarded to the apprentice.

The Independent Assessment Organisation will supply all documentation required to support the EPA together with guidance of the grading descriptors and a grading matrix for the assessor to apply

## Who Will Carry Out the EPA Assessments?

The EPA may only be conducted by an Independent Assessment Organisation approved to deliver the end-point assessment for this apprenticeship standard selected from the Education and Skills Funding Agency's Register of Apprentice Assessment Organisations. (RoAAO)

The Independent Assessment Organisation is to be registered with Ofqual, this stipulation being made because Ofqual deliver the External Quality Assurance for this apprenticeship standard.

Independent assessors are required to display the following attributes;

- Experience and professional competence in the role of assessment with occupational expertise associated with the roles in the standard being assessed.
- Proof of attendance at the Independent Assessment Organisation standardization and update workshops as specified by the Independent Assessment Organisation The training workshops to be specific to the land-based engineering apprenticeship(s)
- Have a commitment to CPD evidenced by a portfolio illustrating personal development of knowledge in land-based engineering and or the areas of assessment being undertaken.

Independent Assessment Organisations may engage or call upon the services of those occupationally competent to act in conjunction with an (IAO) qualified assessor

Occupational competence being judged by a proven track record of service in land-based engineering with a documented CPD record. This being qualified by using the rationale that this equates to a relevant apprenticeship period + 5 years of industry experience.

- Those employed as Group Service managers or Depot Service Managers engaged in the employment, management and utilisation of apprentices
- Senior technicians, supervisors who mentor apprentices in the workplace
- Industry training professionals engaged by a manufacturer's training academy
- Personnel recently retired from industry meeting the above criteria with the eligibility cut off point being 5 years from the retirement date.

This list has been drawn up taking into account the likely volumes and locations of apprentices to ensure that sufficient suitable assessors are available.

## End Point Assessment Final Judgement

In all EPA elements of this apprenticeship the final judgements will be made by an assessor from an independent assessment organisation selected from the Education and Skills Funding Agency's Register of Apprentice Assessment Organisations. (RoAAO)

## **Independence**

The Independent Assessment Organisation is to have no direct involvement with apprentices undergoing the EPA and must be completely impartial as to the result of the apprenticeship

The Independent Assessment Organisation is responsible for ensuring the independence and impartiality of the EPA and the judgements made by those engaged to carry out any EPA activities.

It is envisaged that the EPAs will be deliverable to employers of all sizes and that there will be no disadvantage to niche employer's apprentices undergoing the EPA elements. The proposal to utilise training suppliers facilities to accommodate the EPA supports the thinking that if apprentices can access the off the job training they can also access the EPA elements.

In the cases of remote employers, the Independent Assessment Organisation can at their discretion and in keeping with their quality assurance policy use technology to conduct and record remote Professional Interviews

## **End Point Grading**

The Independent Assessment Organisation will have a grading matrix which they will apply to each of the three EPA elements used within this apprenticeship. Each element will be graded separately and the overall apprenticeship grading will be calculated using an aggregate of the grading achieved in each of the three EPA elements.

The final grading matrix is contained on page 15

- **The On-Line Knowledge EPA**

The grading is achieved by a straight forward calculation of the marks awarded to questions answered correctly expressed as a percentage of the total marks available in the test.

- **The Practical Task EPA**

Consists of 3 separately assessed tasks based on diagnostic scenarios all of which must be completed and a minimum of a pass achieved in each.

Failure to achieve a pass in any one (1) task will represent a fail of the practical EPA, necessitating the organisation of a retake of the practical assessment.

The overall grading for the practical assessments will be calculated using the methodology in the grading matrix on page 15 of this document.

Apprentices committing serious breaches of Health and Safety compliance will be asked to leave the assessment and receive a fail grading in the practical task EPA

Serious breaches may include but are not limited to;

- Any unsafe work activities which may result in injury to themselves or others
- The use of alcohol or other stimulus affecting personal judgement and performance on the day of the assessments.

<b>What is assessed in the Practical Task EPA</b>
Knowledge
Skills
Behaviours

**Annex A** Contains a selection of the Knowledge, Skills and Behaviours contained within the Land-based Service Engineering Service Engineer standards which are to be assessed. This list is to be referenced to ensure that the Practical Tasks assessments include elements of the KSB's listed.

### Grading Descriptors for Practical Tasks

Fail	<p>The apprentice has;</p> <ul style="list-style-type: none"> <li>• failed to interpret the task briefs and has not asked for guidance or clarification</li> <li>• failed to complete the tasks within the allotted time</li> <li>• Used the wrong tools or used them inappropriately</li> <li>• Misdiagnosed or failed to reach a diagnostic conclusion</li> <li>• Did not refer to reference data or record findings</li> </ul>
Pass	<p>The apprentice has</p> <ul style="list-style-type: none"> <li>• An un-organised approach to the task requirements but completed the tasks within the time allocated</li> <li>• Selected and applied the right tools for the task in-hand</li> <li>• Demonstrated a logic approach to the diagnostic elements of the task</li> <li>• Asked for guidance and clarification of failure symptoms</li> <li>• Displayed the underpinning knowledge required to function in the role.</li> <li>• Can explain what they are trying to achieve and why they are using the approach selected</li> </ul>

Merit	<p>The apprentice has met the pass criteria and in addition has</p> <ul style="list-style-type: none"> <li>• Demonstrated a logical ordered approach to the tasks</li> <li>• Displayed logical thinking and appropriate diagnostic practices and processes</li> <li>• Gets things right first time</li> <li>• Pays attention to detail</li> <li>• Demonstrates a strong quality focus</li> <li>• Asks questions and seeks clarification when necessary</li> <li>• Reports their findings and recommendations</li> </ul>
Distinction	<p>The apprentice has met the merit criteria and in addition has</p> <ul style="list-style-type: none"> <li>• Utilises time efficiently completed the tasks in 10% less time than the allotted time</li> <li>• Works to an ordered standard in all areas of the task, cleaning and reinstating the work area, putting tools away, checking tasks completed for conformity and against the brief</li> <li>• Produces clear concise documentation and repair recommendations where this is called for</li> <li>• Can determine the difference between the cause and result of the fault</li> <li>• Displays a confident assertive professional approach to the tasks undertaken and those assessing them</li> </ul>

- **Presentation & Professional Interview EPA**

The Independent Assessment Organisation conducting the Presentation and Professional Interview will develop a grading matrix together with grading descriptors to be used by the assessor to determine the grading awarded

The Independent Assessment Organisations assessor(s) objective will be to confirm that the apprentice has achieved the knowledge, skills and behaviours and how well the apprentice can demonstrate this. This will be achieved by;

- Consideration of the knowledge contained within the presentation and the skills and behaviors displayed in the delivery of the presentation
- Interrogation of the apprentice's 'Log of Progression' as described in the On Programme Requirements outlined on page 4 of this document.
- Verbal questioning to draw out the apprentices knowledge and understanding of the apprenticeship standards, their aspirations and the industry sector they work within.

What is assessed in the Professional Interview EPA
Knowledge
Skills
Behaviours

### Grading Descriptors for Professional Interview

Fail	<p>The apprentice has;</p> <ul style="list-style-type: none"> <li>Failed to demonstrate any depth of knowledge of the presentation subject</li> <li>Failed to communicate or caused confusion by using technical vocabulary inappropriate to the audience</li> <li>Demonstrates no clear logical thought process when responding to questions raised within the professional interview</li> <li>Displays little or no customer care awareness skills</li> <li>Cannot supply basic answers when asked questions presented in the interview based upon the standards</li> <li>Fails to identify actions required to mitigate risk</li> </ul>
Pass	<p>The apprentice has;</p> <ul style="list-style-type: none"> <li>A comprehensive knowledge of the log of progress detailing the stages of development throughout the apprenticeship</li> <li>Compiled and delivered a presentation which gives a clear understanding of the chosen subject</li> <li>Can answer questions using concise language to articulate the reply</li> <li>Can identify the limits of personal ability in their job role</li> <li>Can outline the principles of customer care</li> <li>Can demonstrate knowledge of risk assessment processes</li> </ul>
Merit	<p>Demonstrates all the pass criteria and in addition</p> <ul style="list-style-type: none"> <li>Can communicate a broad understanding of the principles, themes and technologies within the apprenticeship standard and the presentation.</li> <li>Can give a detailed explanation of why the behaviours listed in the standard are important</li> <li>Displays a clear understanding of the company and the industry sector</li> <li>Demonstrates an full understanding of customer care and the impact it has upon the business</li> </ul>

Distinction	<p>Demonstrates all the merit criteria and in addition</p> <ul style="list-style-type: none"> <li>• Presents a well thought out articulated reasoned discussion both in the delivery of the presentation and the professional interview</li> <li>• Critically provides self-analysis of personal development through the apprenticeship process</li> <li>• Demonstrates clear aspirations towards Continual Professional Development and career advancement</li> <li>• Demonstrates a clear understanding of the impact that the working environment has on a machines performance</li> <li>• Demonstrates a deep understanding of the occupation, industry and the role played within the business</li> </ul>
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### Practical Task and Overall Apprenticeship Grading

The Independent Assessment Organisation will determine the overall grading of the apprenticeship, by considering the grading achieved in each of the 3 EPA's and the accumulated total of points associated with the grading as detailed in the matrix below

Individual EPA Grade achieved	Points Awarded	Apprenticeship Grading	Accumulated Points Range
Pass	1	Pass	3 - 5
Merit	2	Merit	6 - 7
Distinction	3	Distinction	8 - 9

### Examples of the how apprenticeship grading is calculated

Practical Tasks EPA	Online Knowledge Test EPA	Professional Interview EPA	Points Total	Overall Grading Awarded
Pass 1 Point	Pass 1 Point	Merit 2 Points	4	Pass
Distinction 3 Points	Merit 2 Points	Pass 1 Points	6	Merit
Distinction 3 Points	Distinction 3 Points	Merit 2 points	8	Distinction

### EPA Retake Policies

Should an apprentice fail the EPA it will be possible to retake the failed EPA element.

The grading of the apprenticeship will be determined using the result achieved in the retake

In the case of the assessment being failed for a second time a further period of study will be required with a retake not being possible within 6 months of the second failure.



In the case of retakes of the On-line Knowledge Tests these are to be comprised of a different randomised set of knowledge questions and for the Practical Tasks a different selection of tasks to those used in the original EPA.

### End-point – summary of roles and responsibilities

<b>Employer</b>	<ul style="list-style-type: none"> <li>• Negotiates the provision of the off the job training and signs the contract with the training provider</li> <li>• Mentors the apprentice in the workplace observing and authenticating the workplace learning evidence required by the apprenticeship standard</li> <li>• Liaises with the training provider to ensure that the apprentice’s development is on track and agrees remedial actions if required</li> <li>• Carries out regular apprentice performance reviews to be included in the apprentice’s log of progression</li> <li>• Decides on the timing and makes arrangements with the Assessment Organisation for the End Point Assessment process to take place</li> <li>• Ensures that the apprentice has the necessary documentation / presentation required to complete the End Point Assessment</li> </ul>
<b>Training Provider</b>	<ul style="list-style-type: none"> <li>• Provides and manages the ‘off the job’ learning elements of the apprenticeship standards</li> <li>• Provides assessors to implement the on-programme assessment requirements</li> <li>• Carries out workplace visits with the apprentice and employer to establish that the apprentice’s workplace learning and off the job learning is aligned and on track with the standards</li> <li>• Carries out regular apprentice performance reviews to be included in the apprentice’s log of progression</li> <li>• Advises the employer of remedial actions to be taken to ensure that the skills and knowledge are in place.</li> <li>• Supports the employer in deciding the timing and arrangement of the End Point Assessment process</li> </ul>
<b>Assessment Organisation</b>	<ul style="list-style-type: none"> <li>• Liaises with employer representatives / bodies to ensure that the End Point Assessment contents and parameters are current and fit for purpose</li> <li>• Compiles and administers the on-line knowledge EPA question bank, Practical Task EPA tasks and Professional Interview administration together with all documentation and procedures.</li> <li>• Provides standardised grading matrixes and grading descriptors to the assessors</li> <li>• Approves a network of assessment centres</li> <li>• Advises assessment centres of the tooling, machinery and resources required to conduct the assessments</li> <li>• Collates the information to facilitate the provision of assessments relevant to the sector specific requirements of those undertaking the Land-based Service Engineering Standards</li> <li>• Appoints and supplies independent assessors having had no previous contact</li> </ul>

	<p>with the delivery of the apprenticeship to make an impartial judgement of the apprentice's competence</p> <ul style="list-style-type: none"> <li>• Ensures that said assessors have experience and professional competence in the role of assessment with relevant expertise associated with the roles in the standard being assessed</li> <li>• Provides Land-based Service Engineering standardisation events and assessor training workshops to ensure uniform judgements across assessors and assessment centres</li> <li>• Provides notification of the EPA results and confirms apprentices competence and awarded grading to the relevant people</li> </ul>
<b>Assessor</b>	<ul style="list-style-type: none"> <li>• Participates in standardisation events and assessor training workshops and maintains a record of continual professional development relevant to Land-based Service Engineering standards</li> <li>• Declares to the Independent Assessment Organisation any factors that might compromise impartiality</li> <li>• Makes impartial decisions on the apprentice's competence and awards grading of the individual EPA elements.</li> <li>• Is responsible for the final decision on assessment judgement</li> </ul>

### Internal Quality Assurance

Quality assurance of End Point Assessment is provided by the Independent Assessment Organisation who will;

- Enforce criteria for approved assessment centres by defining staff, resources, processes and procedures required to undertake the On-line Knowledge, Practical Task and Presentation and Professional Interview EPAs
- Provide and manage a network of independent assessors to undertake marking and scoring of the Practical Task and Professional Interview EPA
- Organise meetings of independent assessors to undertake moderation of the assessment practices and processes. The frequency of the meetings to be a minimum of once per year.
- Develop manage and maintain an on-line knowledge test based on a question bank that facilitates random examinations to test the knowledge of apprentices
- Develop assessment procedures for learners with special requirements to remove barriers to participation, whilst ensuring knowledge, skills and behavioral competence of the apprentice are assessed using methods designed to ensure judgements, health and safety and legal requirements are not compromised.

The Assessment Organisations Independent verifiers will annually organise a moderation event where a random sample of assessments made by assessors employed by the Independent Assessment Organisation will be analysed. The objective being to establish standardisation of judgement between both assessors and assessment centres.

## External Quality Assurance EQA

The external quality assurance of the Land-based Service Engineering Apprenticeship standards will be undertaken by Ofqual on a non-profit making basis.

To ensure that all quality is assured between Independent Assessment Organisations they will be required to register with Ofqual thereby ensuring they meet their quality standards.

## Implementation

- Affordability.

The cost of assessment will be within the maximum 20% of the funding band allocated to the apprenticeship. The individual assessment cost being variable depending on the geographical location of both the employer's business and that of the suitably qualified assessor. It should be noted that Land-based Engineering by its very nature is practiced mainly in rural locations.

When setting the criteria for assessors, consideration was given to the availability and location of assessors and taken into account to ensure there were sufficient to deliver the requirements of the plan.

Furthermore, the Presentation and Professional Interview lends itself to the use of technology facilitating 'one off' assessment possibilities as an alternative to face to face interviews.

The Practical Task EPA must be carried out in an assessment centre. With this in mind the assessment tasks have been designed to accommodate 3 people per assessor day with apprentices rotating between 3 separate task work stations.

- Consistency

Small and large employers have been included in the employer working group and stipulations put into the assessment plan these being;

- That the assessors used by the Assessment Organisations have relevant sector experience. This ensures all have a good understanding of the sector when questioning apprentices
- That the Independent Assessment Organisation should liaise with employers and or their representative body's
- That the Practical Task assessments should contain generic and sector specific assessments to avoid any apprentice being disadvantaged

The Land-based Engineering group is confident that this assessment plan has been compiled to offer consistency of delivery without disadvantaging any one sector or employers no matter the size of their business.

- Professional Body Recognition

Successful completion of this apprenticeship will be accepted by the Institution of Agricultural Engineers (IAgrE) as meeting the Engineering Councils requirements for Engineering Technician (EngTech) registration

- Volumes

In the first year of the apprenticeship launch the expected take up of the apprenticeship is estimated at 250 – 650 depending on the take up the apprenticeship by the Hire and Plant and Construction industry

This volume has the potential to grow to figures of up to 850 in the coming years as more sectors choose to take up the Land-based Service Engineering Technician standards.

## Annex A

## EPA Knowledge Skills &amp; Behaviours Assessment Method Table

<b>KNOWLEDGE From The Standard</b> <b>Knowledge Test (KT), Practical Task (PT), Professional Interview (PI)</b>	<b>Method used to assess:</b>
The procedures used to carry out a risk assessment, identify risks and implement a plan to reduce and mitigate hazards both in the workplace and on site.	<b>KT, PT, PI</b>
The identification, application and care of diagnostic tools and equipment used within the job role. E.g. diagnostic platforms, engine performance analysis equipment, electrical and hydraulic diagnostic equipment specific to the industry sector worked within.	<b>KT, PT,</b>
How to read and interpret complex wiring and hydraulic circuit diagrams relevant to the industry sector worked within and relate this information to logical fault finding and diagnosis	<b>KT, PT,</b>
The underpinning repair principles and practices used in diagnosis and repair of complex equipment	<b>KT, PT</b>
How to record information and communicate concisely using a range of manual and electronic techniques. Typically this will include recording diagnostic data, production of machinery condition reports, the preparation of out of season service reports, repair proposals, accident and quotations, incident reports for manufacturer's service departments and the completion of installation and handover documentation.	<b>PT, PI</b>
How to access, interpret and apply technical data and the influence of operational conditions in the diagnosis and repair of current and emerging technology.	<b>KT, PI</b>
Techniques used in logical diagnosis and verification of complex machinery, plant and equipment performance.	<b>KT, PT, PI</b>
How to work professionally and engage in continual professional development.	<b>PI</b>

<b>SKILLS From the Standard</b> <b>Practical Task (PT), Professional Interview (PI)</b>	
Interpret technical data, documents and operational conditions and apply inline with the technician's role	<b>KT</b>
Interpret and respect safety procedure requirements undertake risk assessment and mitigation measures to safeguard , bystanders, the general public property and livestock	<b>KT, PT.</b>

**Annex A Continued overleaf**

Communicate with and gather information from customers and colleagues employing a range of techniques as appropriate to their audience. This includes explaining technical matters in straight forward terms both verbally and in writing. It also includes listening carefully and asking questions to gather the information required to effect an efficient diagnosis.	<b>PT, PI</b>
Demonstrate professional customer care practices as an individual and team member. This includes; presentation of oneself, the work area, the company's vehicle and equipment. Treating customers and colleagues with respect and courtesy, supporting work colleagues the comply and its products and services.	<b>PT, KT PI</b>
Install and handover machinery, plant and equipment, explaining its safe operation, maintenance and warranty requirements, verification of optimum performance and the completion of handover documentation	<b>KT, PI</b>
Conduct advanced maintenance and the repair of technologically advanced machinery and equipment which typically may include power units, power trains, plant, machinery and their components	<b>PT, KT</b>
Carry out complex diagnostics, repairs and re-instatement of complex and low technology products and verify conformity to manufacturer's specification.	<b>PT, KT</b>
Compile technical reports, repair proposals and risk assessments	<b>PT, KT</b>
Maintain and repair complex hydraulic systems and their components as appropriate to the sector.	<b>PT, KT</b>
Maintain, interrogate and calibrate electronic equipment and systems	<b>PT, KT</b>
Minimise machinery, plant and equipment downtime by carrying out diagnostic and preventative maintenance efficiently and effectively.	<b>KT, PI</b>

<b>BEHAVIOURS</b>	
<b>Practical Task (PT), Professional Interview (PI)</b>	
Plays a proactive role in the identification, mitigation and avoidance of hazards. Capable of giving clear guidance to subordinates on safety critical activities and taking appropriate actions if other are acting unsafely	<b>KT, PI</b>

Logical Approach: Uses logical thought process to structure and implement an efficient diagnosis or action plan to meet customer and company expectations and objectives	<b>PT, PI</b>
Problem Solving: Enjoys complex problem solving, Has the aptitude to establish the root cause of the problem to prevent further re-occurrences rather than to repair the results of the problem.	<b>PT, PI</b>
Communicator: can communicate using a technical vocabulary appropriate to the audience. Establishes the customers expectations and can convey whether these are realistic achievable outcome and mediates dispute resolution	<b>PT PI</b>
Team Player: Can work on their own initiative but also interact and communicate effectively within a team applying a respectful professional manner.	<b>PT PI</b>
Commitment: Is committed to the objectives of their employer and to the wider professional standards of the industry.	<b>PI</b>