

# End-point assessment plan for Lifting Equipment Technician apprenticeship standard

Apprenticeship standard reference number	Apprenticeship standard level	Integrated end-point assessment
ST0872	3	No

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## Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Lifting Equipment Technician apprenticeship standard. It explains how EPA for this apprenticeship must operate.

This document provides the EPA design requirements for end-point assessment organisations (EPAOs) for this apprenticeship standard. It will also be useful for apprentices undertaking this apprenticeship, their employers and training providers.

EPA must be conducted by an EPAO approved to deliver EPA for this apprenticeship standard. Each employer should select an approved EPAO from the Education & Skills Funding Agency's Register of end-point assessment organisations (RoEPAO).

Full time apprentices will typically spend 24 months on-programme (before the gateway) working towards the occupational standard. All apprentices must spend a minimum of 12 months on-programme. All apprentices must spend a minimum of 20% of on-programme time undertaking off-the-job training.

Before starting EPA, an apprentice must meet the gateway requirements. For this apprenticeship they are:

- the employer must be content that the apprentice is working at or above the occupational standard
- for level 3 apprenticeships and above, apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPAO must confirm that all required gateway evidence has been provided and accepted as meeting the gateway requirements. The EPAO is responsible for confirming gateway eligibility. Once this has been confirmed, the EPA period starts.

This EPA should then be completed within an EPA period lasting typically for 3 months, after the EPA gateway.

The EPA consists of 3 discrete assessment methods.

It will be possible to achieve the following grades in each end-point assessment method:

### **Assessment method 1:** Practical Assessment with Questions

- Fail
- Pass

### **Assessment method 2:** Professional Discussion underpinned by a portfolio of evidence

- Fail
- Pass
- Distinction

**Assessment method 3: Multiple Choice Test**

- Fail
- Pass
- Distinction

Performance in the EPA will determine the overall apprenticeship standard grade of:

- Fail
- Pass
- Distinction

## EPA summary table

<p><b>On-programme</b> (typically 24 months)</p>	<p>Training to develop the knowledge, skills and behaviours (KSBs) of the occupational standard.</p> <p>Training towards English and mathematics Level 2, if required.</p> <p>Compiling a portfolio of evidence.</p>
<p><b>End-point assessment gateway</b></p>	<p>The employer must be content that the apprentice is working at, or above, the level of the occupational standard.</p> <p>Apprentices must have achieved all qualifications mandated in the occupational standard. The qualifications required are:</p> <ul style="list-style-type: none"> <li>• Achieved English and mathematics Level 2</li> </ul> <p>Apprentices must submit:</p> <ul style="list-style-type: none"> <li>• A portfolio of evidence compiled during the on-programme period of the apprenticeship, containing sufficient evidence to demonstrate the knowledge, skills and behaviours (KSBs) that will be assessed by the professional discussion.</li> </ul>
<p><b>End-point assessment</b> (which will typically take 3 months)</p>	<p>Assessment method 1: Practical Assessment with Questions</p> <p>With the following grades:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> </ul> <p>Assessment method 2: Professional Discussion underpinned by a portfolio of evidence</p> <p>With the following grades:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> <li>· Distinction</li> </ul> <p>Assessment method 3: Multiple Choice Test</p> <p>With the following grades:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> <li>· Distinction</li> </ul>

	Overall EPA/apprenticeship graded Fail, Pass, Distinction
<b>Professional recognition</b>	Aligns with recognition by: <ul style="list-style-type: none"><li data-bbox="639 407 1425 478">• The Institute of Engineering and Technology (Level - Engineering Technician)</li></ul>

## Length of end-point assessment period

The EPA will be completed within an EPA period lasting typically 3 months, starting when the EPAO has confirmed that all Gateway requirements have been met.

Any supporting material which underpins an EPA assessment method should be submitted at the gateway.

The EPA period must last for a minimum of one week.

## Order of assessment methods

The assessment methods can be delivered in any order.

The result of one assessment method does not need to be known before starting the next.

## Gateway

The apprentice should only enter the gateway once the employer is content that the apprentice is working at or above the level of the occupational standard. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

The EPAO determines when all other gateway requirements have been met, and the EPA period will only commence once the EPAO has confirmed this.

In addition to the employer's confirmation that the apprentice is working at or above the level of the occupational standard, the apprentice must have completed the following gateway requirement prior to starting EPA:

- Achieved English and mathematics at level 2. (For those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.)

For Practical Assessment with Questions:

- no specific requirements

For Professional Discussion underpinned by a portfolio of evidence:

### **Portfolio of evidence requirements:**

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- it must contain evidence related to the KSBs that will be assessed by assessment method 2, the professional discussion
- the portfolio of evidence will typically contain 10-12 discrete pieces of evidence
- evidence must be mapped against the KSBs
- evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested
- evidence sources may include:
  - workplace documentation/records, for example workplace policies/procedures, records
  - witness statements
  - annotated photographs
  - video clips (maximum total duration 10 minutes); the apprentice must be in view and identifiable
  - work products, such as work reports, instructions and safety documentation

This is not a definitive list; other evidence sources are possible.
- it should not include reflective accounts or any methods of self-assessment
- any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions

- the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
- the portfolio of evidence must be submitted to the EPAO at the gateway

The portfolio of evidence is not directly assessed. It underpins method 2, the professional discussion assessment method, and therefore should not be marked by the EPAO. EPAOs should review the portfolio of evidence in preparation for the professional discussion, but are not required to provide feedback after this review of the portfolio.

In addition to the portfolio of evidence, a copy of the company procedures and processes should be provided to the EPAO so the independent assessor can ensure these are being followed when skill statements S14 and S22 are being assessed.

For Multiple Choice Test:

- no specific requirements



## End-point assessment methods

The apprentice will be assessed against the KSBs assigned to the assessment methods outlined below, as shown in the mapping section of this EPA plan.

**Assessment method 1: Practical Assessment with Questions** (This assessment method has 1 component.)

### Overview

A practical assessment involves an independent assessor observing an apprentice undertaking a set task or a series of set tasks in a simulated environment and asking questions. The simulated environment must closely relate to the apprentice's natural working environment.

The rationale for this assessment method is:

- This occupation involves practical tasks best assessed through observation, however, the opportunity to demonstrate the transferable skills required may be limited in a real work context due to scheduling issues.
- A practical assessment has been selected as this enables all apprentices to have the same opportunity to demonstrate their ability to work on different types of equipment.

### Delivery

Apprentices must be observed by an independent assessor completing 3 tasks in the practical assessment in which they will be assessed against the KSBs assigned to this assessment method. The end-point assessment organisation will arrange for the practical assessment to take place in consultation with the employer. Practical assessments must be carried out over an assessment time of 5 hours in total (for all 3 tasks). The assessments may be split into discrete sections held on the same working day. A typical working day is considered to be 7.5 hours. The independent assessor has the discretion to increase the time of the practical assessment by up to 10% to allow the apprentice to complete the last task that is part of this assessment method or to respond to a question.

The independent assessor may conduct and observe only one apprentice during this assessment method to ensure quality and rigour.

There may be breaks during the practical assessment to allow the apprentice to move from one location to another and for meal breaks. These are exclusive of the assessment time and the clock must be stopped for the duration of these breaks. EPAOs must manage invigilation of apprentices during breaks in order to maintain security of the assessment in line with their malpractice policy.

The practical assessment with questions must take 5 hours in total for all 3 tasks. Apprentices must be provided with both written and verbal instructions on the tasks they must complete, including the timescales they are working to, exclusive of the assessment time.

The following activities MUST be observed during the practical assessment. (These tasks must be designed to provide the apprentice with the opportunity to demonstrate occupational competence in the KSBs assigned to this assessment method.)

Three practical tasks, two which cover Lifting Machines and one which covers Lifting Accessories:

Task 1:

Strip down, maintenance and examination of two items of manually powered lifting appliances to assess condition.

The apprentice must be assessed carrying out this task in relation to two different items from the following list: Chain Hoist, Lever Hoist, Jaw Winch, one of which must require repair and verification, and one of which doesn't.

Task 2:

Examination of two items of manually powered lifting appliances to assess condition, these must be two different ones from the following list: Jacks, Hand Operated Winch, Travelling Trolleys, Pulley Block.

Task 3:

Examination of 6 different lifting accessories from the following list: Shackle, Eyebolt, Multi-Leg Chain Sling, Multi-Leg Wire Rope Sling, Flat Webbing Sling, Round Sling, Plate Clamp, Beam Clamp.

3 of which must be in condition to pass a Thorough Examination, and 3 of which must be in condition to fail.

All of the tasks must be completed within the 5-hour assessment period. (This replicates real world activities where a range of equipment must be assessed within a set time frame).

Although the tasks will be assessed holistically during one overall practical assessment, each task will have the following duration (this will be specified as part of the assessment):

- Task 1 – 3 hours
- Task 2 – 1 hour
- Task 3 – 1 hour

The EPAO must provide:

- An inspection checklist for all of the tasks.
- The manufacturer's specification / manual (which is in accordance with usual business practice).
- Technical drawings, schematic parts diagrams, load charts and technical specifications relevant to the equipment to be worked on.
- A selection of spares to conduct the repair. This must include more spares than are actually required in order to prevent predictability of the damage/fault.
- Tools and measuring equipment, test weights for verification, lifting media.

The apprentice must produce a report of Thorough Examination (in accordance with EPAO requirements and in line with current legislative requirements) of all items examined to document findings identified and completed during the examination/inspection activity.

The tasks must test application of technical inspection procedures and safe systems of work and use of appropriate PPE and tools as required for the task.

The specifications must be of equal complexity so as to require an occupationally competent person 5 hours in total to complete all three tasks (+10% at the independent assessor's discretion, to allow the apprentice to complete the last task or respond to a question).

EPAOs will create and set open questions to assess related underpinning KSBs.

Questioning must be completed within the total 5 hour assessment time allowed for the practical demonstration. The questions can be asked by the independent assessor both during and after work completion. In order to remain as unobtrusive as possible, independent assessors should ask questions during natural stops between tasks and/or after completion of work. The independent assessor must ask a minimum of 10 questions across all of the tasks, and follow up questions can be asked for clarification. The purpose of the questioning is to assess underpinning knowledge and behaviours and for the apprentice to give a rationale for their actions.

KSBs observed and answers to questions must be documented by the independent assessor. The assessment of the observed evidence and responses to questions should be assessed holistically.

The independent assessor will make all grading decisions.

### **Questions and resources development**

EPAOs will create and set open questions to assess KSBs mapped to this assessment method. Each EPAO must develop a question bank of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure the questions they contain are fit for purpose. Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgment to tailor those questions appropriately. Independent assessors are responsible for generating suitable follow-up questions in line with the EPAO's training and standardisation process. The questions relating to underpinning KSBs must be varied yet allow assessment of the relevant KSBs.

Apprentices are expected to understand and use relevant occupational language.

EPAOs will produce specifications to outline in detail how the practical assessment will operate, what it will cover and what should be assessed. It is recommended that this be done in consultation with employers. EPAOs should put measures and procedures in place to maintain the security and confidentiality of their specifications if employers are consulted. Specifications must be standardised by the EPAO.

EPAOs must develop 'practical specification banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for purpose. The specifications, including questions relating to underpinning KSBs must be varied, yet allow assessment of the relevant KSBs. EPAOs must ensure that

apprentices have different practical assessment specifications and questions in the case of re-sits/re-takes.

### Venue

Practical assessments must be conducted in one of the following locations:

- The employer's premises
- A suitable venue selected by the EPAO (e.g a training provider's premises or another employer's premises.)

Where the practical demonstrations take place on the employer's premises, it is anticipated that the employer will provide the necessary tools and equipment. The EPAO should liaise with the employer to arrange this. Where practical demonstrations take place off-site, the EPAO is responsible for ensuring the apprentice has the appropriate tools and equipment to complete the task. The EPAO may liaise with the employer to provide these. The EPAO may ask a maintenance technician to be on hand to provide technical support and set up tasks.

The EPAO is responsible for ensuring that the apprentice is assessed under normal conditions, in a familiar environment, which is representative of normal workplace conditions for this occupation. The venue must include:

- A well-lit, clean work area free from distraction
- A robust and sturdy workbench which must have a vice
- Means of bolting down items (such as a hand operated winch) and a rated suspension point suitable of sustaining 150kg.

The EPAO is responsible for ensuring these are in place.

### Support material

EPAOs will produce the following material to support this assessment method:

- independent assessor training materials
- assessment specifications
- grading guidance
- a question bank
- assessment recording documentation
- marking materials

## Assessment method 2: Professional Discussion underpinned by a portfolio of evidence (This assessment method has 1 component.)

### Overview

This assessment will take the form of a professional discussion which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the

KSBs assigned to this assessment method. Questioning should assess the KSBs assigned to this assessment method and the apprentice may use their portfolio to support their responses.

A professional discussion is a two-way discussion which involves both the independent assessor and the apprentice actively listening and participating in a formal conversation. The apprentice leads the professional discussion to make detailed and proactive contributions to confirm their competency across the KSBs mapped to this method.

The rationale for this assessment method is:

- It allows the apprentice to be assessed against KSBs which may not naturally occur during the practical assessment.
- It is underpinned by a portfolio of evidence, enabling the apprentice to demonstrate the application of skills and behaviours as well as knowledge.
- It allows for testing of responses where there are a number of potential answers that couldn't be tested through a multiple-choice test.
- It is cost effective, as apart from a venue it does not require additional resources.

### Delivery

The independent assessors will conduct and assess the professional discussion.

The professional discussion must last for 90 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer.

The professional discussion will be conducted as set out here:

The professional discussion is to be conducted on a one-to-one basis.

Apprentices must be assessed against the KSBs assigned to this assessment method as shown in the mapping of KSBs. Apprentices are expected to understand and use relevant occupational language that would be typical of a level 3 competent person in this occupation.

During this method, the independent assessor must combine questions from the EPAO's question bank and are expected to use their professional judgement to tailor those questions appropriately. The apprentice can use the portfolio of evidence as an aide memoire and to support answers being given.

The independent assessor must ask a minimum of 12 open questions that adequately cover the KSBs mapped to this assessment method.

The themes for the questions are:

- Health and Safety
- Planning, Quality and Problem Solving
- Working with others
- Workshop operations
- Manufacture/Assembly
- Install, Repair, Replace
- Disposal

- Customer Service
- Continuous Professional Development

KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the professional discussion.

The independent assessor will make all grading decisions.

### Venue

The professional discussion should take place in a quiet room, free from distractions and influence.

Video conferencing can also be used to conduct the professional discussion, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The professional discussion can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO (for example a training provider's premises).

### Question and resource development

A question bank must be developed by EPAOs. The question bank must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs. Independent assessors must use the question bank as a source for questions and are expected to use their professional judgment to tailor those questions appropriately. Independent assessors are responsible for asking suitable questions in line with the EPAO's training and standardisation process.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

Independent assessors must be developed and trained by the EPAO in the conduct of professional discussion and reaching consistent judgement.

### Support Material

EPAOs will produce the following material to support this assessment method:

- Professional discussion specification
- Question/Scenario bank
- Marking materials
- Recording documentation.
- Independent assessor training materials

- Grading guidance
- Outline of the assessment method's requirements

## Assessment method 3: Multiple Choice Test (This assessment method has 1 component.)

### Assessment method 3 component 1: Multiple Choice Test

A test is a controlled assessment which consists of a series of questions in which apprentices are asked to provide a response.

#### Overview

The rationale for this assessment method is:

- it allows for the efficient testing of knowledge where there is a right or wrong answer
- it does not require independent assessor time, reducing cost
- it allows for flexibility in terms of when, where and how it is taken.

#### Delivery

##### Test format

The test can be:

- computer based
- paper based

It will consist of 30 questions.

These questions will consist of:

- Closed response questions (e.g. multiple-choice questions).

There must be 3 questions relating to K4 and 3 questions relating to K20 as these are critical to occupational competence.

#### Test administration

Apprentices must have 60 minutes to complete the test.

The test is closed book which means that the apprentice cannot refer to reference books or materials.

Apprentices must take the test in a suitably controlled environment that is a quiet space, free of distractions and influence, in the presence of an invigilator. The invigilator may be the independent assessor or another external person employed by the EPAO or specialised (proctor) software, if the test can be taken on-line. The EPAO is required to have an invigilation policy that will set out how the test is to be carried out. This will include specifying the most

appropriate ratio of apprentices to invigilators to best take into account the setting and security required in administering the test.

The EPAO is responsible for ensuring the security of testing they administer to ensure the test remains valid and reliable (this includes any arrangements made using online tools). The EPAO is responsible for verifying the validity of the identity of the person taking the test.

This assessment method will be carried out as follows:

This is a multiple-choice test. There will be 4 answers, one of which will be the only correct answer. There can be one scenario-based question relating to skills (S16) which can outline scenarios followed by a question with multiple choice responses.

The EPAO must verify the suitability of the venue for taking the test.

### Marking

Tests must be marked by independent assessors or markers employed by the EPAO following a marking guide produced by the EPAO. Alternatively, marking by computer is permissible where question types allow this, to improve marking reliability.

Correct answers will be awarded one mark.

Any incorrect or missing answers must be assigned 0 marks.

### Question and resources development

Questions must be written by EPAOs, must be relevant to the occupation and assess KSBs mapped to this assessment method. It is recommended that this be done in consultation with employers of this occupation. EPAOs should also maintain the security and confidentiality of their questions when consulting employers. Each EPAO must develop a test specification. They must also develop 'question banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose. The test questions must be varied yet assess the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

### Required supporting material

EPAOs will produce the following material to support this assessment method:

- a question bank
- a test specification
- sample tests and mark schemes
- live tests and mark schemes
- analysis reports which show areas of weakness for completed tests/exams and an invigilation policy
- assessment recording documentation

## Reasonable adjustments



The EPAO must have in place clear and fair arrangements for making reasonable adjustments to the assessment methods for the EPA for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this EPA plan.

## Overall EPA Grading

All assessment methods are weighted equally in their contribution to the overall EPA grade.

Performance in the EPA will determine the apprenticeship grade of fail, pass, or distinction.

Independent assessors must individually grade the professional discussion and practical assessment, according to the requirements set out in this plan.

EPAOs must combine the individual assessment method grades to determine the overall EPA grade.

## Grading

For assessment methods 1 and 2, see mapping and grading tables later on within this document.

### Assessment method 3: Multiple Choice Test

KSBs												
K1	K2	K3	K4	K8	K13	K20	K21	K22	K23	K24	K25	K26
S16												

The following grade boundaries apply to the test:

Grade	Minimum score (marks out of 30)	Maximum score (marks out of 30)
Distinction	27	30
Pass	21	26
Fail	0	20

In order to achieve a pass or a distinction, the apprentice must answer 2 out of 3 questions relating to K4 correctly, and 2 out of 3 questions relating to K20 correctly, as these are critical to occupational competence.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Practical Assessment with Questions Assessment method 1	Professional Discussion Assessment method 2	Multiple Choice Test Assessment method 3	Overall grading
Fail	Any grade	Any grade	Fail
Any grade	Fail	Any grade	Fail
Any grade	Any grade	Fail	Fail
Pass	Pass	Pass	Pass
Pass	Distinction	Pass	Pass
Pass	Pass	Distinction	Pass
Pass	Distinction	Distinction	Distinction

Any grade = fail, pass, or distinction

## Re-sits and re-takes

Apprentices who fail one or more assessment methods will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

The timescales for a re-sit/re-take are agreed between the employer and EPAO. A re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 4 months of the EPA outcome notification.

All assessment methods must be taken within an 8 month period, otherwise the entire EPA will need to be re-sat/re-taken.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

## Roles and responsibilities

Role	Responsibility
Apprentice	<p>As a minimum, apprentices should:</p> <ul style="list-style-type: none"> <li>• participate in and complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months</li> <li>• undertake 20% off-the-job training as arranged by the employer and training provider</li> <li>• understand the purpose and importance of EPA</li> </ul>
Employer	<p>As a minimum, employers should:</p> <ul style="list-style-type: none"> <li>• select the EPAO and training provider</li> <li>• work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs</li> <li>• arrange and support a minimum of 20% off-the-job training to be undertaken by the apprentice</li> <li>• decide when the apprentice is working at or above the occupational standard and so is ready for EPA</li> <li>• ensure that all supporting evidence required at the gateway is submitted in accordance with this EPA plan</li> <li>• remain independent from the delivery of the EPA</li> <li>• confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner (including providing access to any employer-specific documentation as required, for example company policies)</li> <li>• ensure that the EPA is scheduled with the EPAO for a date and time which allow appropriate opportunity for the KSBs to be met</li> <li>• ensure the apprentice is well prepared for the EPA</li> <li>• ensure the apprentice is given sufficient time away from regular duties to prepare for and complete all post-gateway elements of the EPA,</li> </ul>

	<p>and that any required supervision during this time (as stated within this EPA plan) is in place</p> <ul style="list-style-type: none"> <li>• where the apprentice is assessed in the workplace, ensure that the apprentice has access to the resources used on a daily basis</li> </ul>
EPAO	<p>As a minimum, EPAOs should:</p> <ul style="list-style-type: none"> <li>• conform to the requirements of this EPA plan and deliver its requirements in a timely manner</li> <li>• conform to the requirements of the Register of End-Point Assessment Organisations (RoEPAO)</li> <li>• conform to the requirements of the external quality assurance provider (EQAP) for this apprenticeship standard</li> <li>• understand the occupational standard</li> <li>• make all necessary contractual arrangements, including agreeing the price of the EPA</li> <li>• develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material)</li> <li>• appoint suitably qualified and competent independent assessors</li> <li>• appoint administrators (and invigilators where required) to administer the EPA as appropriate</li> <li>• provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading</li> <li>• provide adequate information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA</li> <li>• arrange for the EPA to take place, in consultation with the employer</li> <li>• where the apprentice is not assessed in the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary</li> <li>• develop and provide appropriate assessment recording documentation to ensure a clear and auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders</li> </ul>

	<ul style="list-style-type: none"> <li>• have no direct connection with the apprentice, their employer or training provider. In all instances, including when the EPAO is the training provider (i.e. HEI), there must be no conflict of interest</li> <li>• have policies and procedures for internal quality assurance (IQA), and maintain records of regular and robust IQA activity and moderation for external quality assurance (EQA) purposes</li> <li>• deliver induction training for independent assessors, and for invigilators and/or markers (where used)</li> <li>• undertake standardisation activity on this apprenticeship standard for all independent assessors before they</li> <li>• conduct an EPA for the first time, if the EPA is updated and periodically as appropriate (a minimum of annually)</li> <li>• manage invigilation of apprentices in order to maintain security of the assessment in line with the EPAO's malpractice policy</li> <li>• verify the identity of the apprentice being assessed</li> <li>• use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard</li> <li>• provide details of the independent assessor's name and contact details to the employer</li> <li>• have and apply appropriately an EPA appeals process</li> <li>• request certification via the Apprenticeship Service upon successful achievement of the EPA</li> </ul>
Independent assessor	<p>As a minimum, independent assessors should:</p> <ul style="list-style-type: none"> <li>• have the competence to assess the apprentice at this level and hold any required qualifications and experience in line with the requirements of the independent assessor as detailed in the IQA section of this EPA plan</li> <li>• understand the occupational standard and the requirements of this EPA</li> </ul>

	<ul style="list-style-type: none"> <li>• have, maintain and be able to evidence up-to-date knowledge and expertise of the subject matter</li> <li>• deliver the end-point assessment in-line with the EPA plan</li> <li>• comply with the IQA requirements of the EPAO</li> <li>• have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI)</li> <li>• attend induction training</li> <li>• attend standardisation events when they begin working for the EPAO, before they conduct an EPA for the first time and a minimum of annually on this apprenticeship standard</li> <li>• assess each assessment method, as determined by the EPA plan, and without extending the EPA unnecessarily</li> <li>• assess against the KSBs assigned to each assessment method, as shown in the mapping of assessment methods and as determined by the EPAO, and without extending the EPA unnecessarily</li> <li>• make all grading decisions</li> <li>• record and report all assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by the EPAO, in a timely manner</li> <li>• use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard</li> <li>• mark open (constructed) test answers accurately according to the EPAO's mark scheme and procedures</li> </ul>
Training provider	<p>As a minimum, training providers should:</p> <ul style="list-style-type: none"> <li>• work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the knowledge, skills and behaviours as listed in the occupational standard</li> <li>• conduct training covering any knowledge, skill or behaviour requirement agreed as part of the</li> </ul>

	<p>Commitment Statement (often known as the Individual Learning Plan).</p> <ul style="list-style-type: none"> <li>• monitor the apprentice's progress during any training provider led on-programme learning</li> <li>• advise the employer, upon request, on the apprentice's readiness for EPA</li> <li>• remain independent from delivery of the EPA. Where the training provider is the EPA (i.e. a HEI) there must be procedures in place to mitigate against any conflict of interest</li> </ul>
Marker for the multiple-choice test	<p>As a minimum, markers should:</p> <ul style="list-style-type: none"> <li>• attend induction training</li> <li>• have no direct connection or conflict of interest with the apprentice, their employer or training provider in all instances including when the EPAO is the training provider (i.e. HEI)</li> <li>• mark multiple-choice test answers accurately according to the EPAO's mark scheme and procedures</li> </ul>
Invigilator	<p>As a minimum, invigilators should:</p> <ul style="list-style-type: none"> <li>• attend induction training as directed by the EPAO</li> <li>• have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI)</li> <li>• invigilate and supervise apprentices during tests and in breaks during assessment methods to prevent malpractice in accordance with the EPAO's invigilation procedures</li> </ul>
Maintenance Technicians	<p>Must be approved by the EPAO and must:</p> <ul style="list-style-type: none"> <li>• have no direct connection or conflict of interest with the apprentice, their employer or training provider</li> <li>• provide technical support to set up practical tasks and equipment prior to tasks commencing</li> <li>• re-sets practical tasks for other candidates to undertake tasks in the same conditions.</li> <li>• on hand if equipment fails or faults are identified when assessments are being undertaken</li> <li>• provide information only at the request of the end-point assessor who has the final say over</li> </ul>



	<p>the assessment and grade awarded not provide information on behalf of the apprentice, ask the apprentice questions or influence the apprentice or the assessment judgement in any way</p> <ul style="list-style-type: none"><li>• not amplify or clarify points made by the apprentice</li><li>• plays no part in administering the practical tasks or making judgements on grading.</li></ul>
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## Internal Quality Assurance (IQA)

Internal quality assurance refers to the strategies, policies and procedures that EPAOs must have in place to ensure valid, consistent and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:

- have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
- appoint independent assessors who have knowledge of the following occupational areas:  
Industry professional experience plus the following qualifications: LEEA Lifting Equipment General (LEG) and Lifting Machines Manual (LMM) Level 3 Assessor Qualification or equivalent qualifications (or working towards the assessor qualifications).
- appoint independent assessors who have recent relevant experience of the occupation/sector at least one level above the apprentice gained in the last three years or significant experience of the occupation/sector.
- appoint independent assessors who are competent to deliver the end-point assessment.
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- operate induction training for independent assessors when they begin working for the EPAO on this standard and before they deliver an updated assessment method for the first time
- ensure independent assessors attend standardisation events on an ongoing basis and at least once per year
- undertake standardisation activity on this apprenticeship standard for all independent assessors:
  - before they conduct an EPA for the first time
  - if the EPA is updated
  - periodically as appropriate (a minimum of annually)
- conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades

## Affordability

Affordability of the EPA will be aided by using at least some of the following practice:

- Online assessment
- Using an employer's premises
- Assessing multiple apprentices simultaneously in the Multiple Choice Test.
- Use of technology – for example video conferencing where applicable

## Professional body recognition

This apprenticeship is designed to prepare successful apprentices to meet the requirements for registration as an Engineering Technician with The Institute of Engineering and Technology.

# Mapping of knowledge, skills and behaviours (KSBs)

## Assessment method 1: Practical Assessment with Questions

Knowledge
<b>K8</b> How to ensure the safety of self, colleagues and anyone in the working area (risk/hazard identification); manual handling, correct selection and use of Personal Protective Equipment (PPE), Risk Assessment and Method Statements
<b>K11</b> Assessment of equipment for continued safe use, such as how to identify the repair required, component compatibility, time and materials required to fix
<b>K14</b> Standard operating functions of lifting equipment in normal use
<b>K15</b> Pass or fail inspection criteria for equipment when failed or is not fit for purpose, such as identification of common defects and parts that regularly break or go missing and need to be replaced, including chain wear features, missing or broken latches in hooks
<b>K16</b> Operation of manual or IT applications used in the workshop and on-site environment, such as excel, search engines and company reporting systems
<b>K18</b> Causes of defects and maintenance issues and problem solving. How to identify likely causes of damage, for example. manufacturing fault, wear, misuse or overloading
<b>K19</b> How to prepare a complete report according to legislative requirements and who to contact about defects and how to address them, including when to notify statutory bodies
Skills
<b>S1</b> Use knowledge, experience and judgement to undertake inspections/examinations in accordance with manufacturer's instructions and guidelines and industry standards
<b>S3</b> Identify components that require repair, replacement or discard and diagnose faults
<b>S4</b> Repair or replace component parts in accordance with manufacturer's guidelines and industry standards
<b>S6</b> Complete routine maintenance on items of lifting equipment in accordance with manufacturer's instructions, guidelines and industry standards
<b>S8</b> Measure and assess wear tolerances and deformation in line with manufacturer instructions/guidance and industry standard
<b>S9</b> Read and interpret technical drawings, schematic parts diagrams, load charts and technical specifications
<b>S10</b> Research information using hard copy and digital formats, e.g. referring to LOLER, manufacturer's specifications, standards

<b>S11</b> Log and record work activities and prepare reports, such as a Report of Thorough Examination, Examination Defect Report, timesheets
<b>S12</b> Identify and use tools and measuring devices required for a task, for example verniers, load cells, tape measure, steel rule
<b>S13</b> Maintain a clean, tidy and safe working area
<b>S16</b> Work in accordance with Safe Systems of Work and apply control measures as required (such as Health and Safety at Work Act, Working at Height, Risk Assessment and Method Statements)
<b>S17</b> Apply safe manual handling techniques
<b>S18</b> Effectively communicate both verbally and in writing
<b>S19</b> Identify and use Personal Protective Equipment (PPE)
<b>S24</b> Perform different types of tests to verify lifting equipment, eg light load test, proof load, function test
<b>S25</b> Use lifting equipment safely

Behaviours
<b>B1</b> Safety Conscious - Puts safety first. Always uses safety equipment and PPE and has customers' safety in mind
<b>B5</b> Results Driven - Completes tasks in accordance with the specific job requirements, within the agreed timescale, demonstrating acceptable workmanship and completing the required documentation correctly.
<b>B8</b> Assertive and Confident - Is confident and communicates with conviction
<b>B9</b> Self-Motivation - Takes responsibility for completion of own work

## Assessment method 2: Professional Discussion

Knowledge
<b>K5</b> Workshop and onsite operations which may include ordering, stock control and correct use of documentation such as order forms, repair forms, quarantine forms and reports of thorough examination
<b>K6</b> Types of customer interaction and customer service techniques including when to contact the customer, the tone that should be adopted, how to time and follow up communication – both verbally and in writing, and how to adjust the approach to take account of customers'/clients' needs
<b>K7</b> Commercial practices, products and services

<b>K9</b> Safe disposal and recycling of associated waste (including waste oils, cleaning fluids, batteries, tyres, etc.), environmental policies
<b>K10</b> The rights and responsibilities of an employee and employer, including the importance of respecting people from diverse backgrounds and treating people fairly
<b>K12</b> Knowledge of manufacturer specifications and industry working practices - understanding pre-use checks, storage of equipment, when and where to use them, assembly, maintenance and safe use instructions, knowing the importance of following manufacturers' specifications and organisations' procedures when making repairs and installing lifting equipment
<b>K17</b> Scheduling and project management techniques; planning and the importance of meeting project deadlines (how to manage oneself to meet company targets)

<b>Skills</b>
<b>S2</b> Estimate time required to complete a task
<b>S5</b> Assemble, dismantle and reassemble new and used lifting equipment
<b>S7</b> Manufacture/assemble steel wire rope sling in accordance with the applicable and current EN, BS, or ISO manufacturing standards (or other standard specified by the client) and techniques or specifications
<b>S14</b> Apply company quality control measures
<b>S15</b> Apply knowledge of lifting equipment to appropriately guide customers in the selection of lifting equipment for the task
<b>S20</b> Develop safe systems of work, including risk assessments and method statements: specifying manpower required; specifying qualifications, training and experience requirements; identifying safe methods of access and transportation; identifying correct PPE for the task; specifying work location and environment, plant, machinery, tools and equipment; identifying the applicable statutory and customer safety standards that must be complied with
<b>S21</b> Identify toxic and hazardous substances and environments and apply control measures
<b>S22</b> Dispose of equipment, components and substances in accordance with environmental regulations, industry standards and company policy
<b>S23</b> Control and manage spills
<b>S26</b> Install lifting equipment in accordance with manufacturer's specification and industry working practices
<b>S27</b> Mark lifting equipment in accordance with industrial standards

<b>Behaviours</b>
<b>B1</b> Safety Conscious - Puts safety first. Always uses appropriate safety equipment and PPE and has customers' safety in mind

<b>B2 Collaborative</b> - For example, works well with others. supports other people (colleagues and/or clients), considers the implications of their actions on other people and the business, listens to others and has a positive and respectful attitude
<b>B3 Professional Values</b> - Behaves in a manner that aligns with the company ethos, including prompt timekeeping, smart presentation of self and working area, acts as a responsible ambassador for the business, by working efficiently, treating all clients, employees and co-workers respectfully and meeting customer and employer expectations
<b>B4 Honesty and Integrity</b> - Acts with integrity, giving honest and accurate guidance to customers
<b>B6 Quality Focus</b> – Shows attention to detail and uses a logical approach to problem solving. Seeks opportunities to improve quality, speed and efficiency. Stays motivated and committed when facing challenges
<b>B7 Continuous Personal Development</b> - Receptive to constructive feedback from peers and management and proactive in giving feedback to others. Reflects on own knowledge, skills and behaviours and seeks opportunities to develop
<b>B10 Adaptability</b> - Able to adjust to changes to work instructions and tasks

## Assessment method 3: Multiple Choice Test

Knowledge
<b>K1</b> The types, applications and unique characteristics of lifting equipment, including static and manually operated equipment, derivatives and the associated technology and the characteristics and physical mechanical properties of materials used in the manufacturing of lifting equipment
<b>K2</b> Diagnostic and assessment principles required to maintain, repair and modify the mechanical aspects of lifting equipment to meet manufacturer specifications
<b>K3</b> Current legislation and standards for lifting equipment, components, tools and equipment
<b>K4</b> Legislation and required compliance within the lifting equipment industry, including lifting equipment regulations (for example Lifting Operations Lifting Equipment Regulations (LOLER), Machinery Directive, Provision and Use of Work Equipment Regulations (PUWER), Supply of Machinery (Safety) Regulations, Health and Safety at Work Act, Control of Substances Hazardous to Health (COSHH), Working at Height, Confined Spaces working, manufacturers' instructions and industry standards
<b>K8</b> How to ensure the safety of self, colleagues and anyone in the working area (risk/hazard identification); manual handling, correct selection and use of Personal Protective Equipment (PPE), Risk Assessment and Method Statements
<b>K13</b> Principles of handling hazardous equipment, materials and substances, their safe handling, preservation, storage & shipping of damaged items, emergency procedures, knowing when to ask for third party advice and guidance

<b>K20</b> How to calculate in use operational safe working loads considering working conditions, method of use for the equipment and operating environment, such as how to work out a percentage, mode factors, uniform load method, trigonometric method calculations, algebra and Pythagoras theorem, units of measure, including imperial and metric systems and how to convert them
<b>K21</b> Manufacturing techniques and resulting impact on safe and correct operational use of equipment
<b>K22</b> Heat treatment, principles and processes - including critical ranges and the implications of not achieving correct temperature ranges
<b>K23</b> Stress and strain and their impact on material behaviour
<b>K24</b> Verification methods and how and when to use them. This includes destructive and non-destructive testing, which could be visual examination, operational / functional testing, load testing, proof load testing, Magnetic Particle Inspection (MPI), dye penetrant, bend testing, Eddy current testing, X-ray testing, ultrasound testing, Izod testing and Charpy testing
<b>K25</b> Marking requirements and techniques
<b>K26:</b> How to use measuring equipment and calibrated tools including digital verniers, torqueing tools, dial gauges, load cells, compression tools and micrometers

## Skills

**S16** Work in accordance with Safe Systems of Work and apply control measures as required (such as Health and Safety at Work Act, Working at Height, Risk Assessment and Method Statements)

## Appendix A: Grading Descriptors

### Assessment method 1: Practical Assessment with Questions

KSBs	Pass – All pass criteria must be met
<b>Health and Safety/Housekeeping</b> <b>K8, S13, S16, S17, S19, S25, B1</b>	Works in accordance with safe systems of work, including complying with relevant health, safety and environmental legislation to ensure safety of themselves and anyone else in the working area. (B1, K8, S16).



	<p>Selects and uses appropriate PPE. (B1, K8, S19)</p> <p>Demonstrates that they are taking account of risks and hazards in the workplace and putting in place control measures. (K8, S16)</p> <p>Demonstrates safe manual handling techniques and safe use of lifting equipment in line with instructions when carrying out tasks. (S17, S25)</p> <p>Maintains a clean, tidy and safe working area throughout the task. (S13)</p>
<p><b>Carry out inspection/determine action/organise</b></p> <p><b>K11, K14, K15, K18, S1, S10, S24, B5, B9</b></p>	<p>Identifies job task requirements (such as repair required, component compatibility, time required and materials required); seeks clarification where necessary. (K11)</p> <p>Conducts chosen inspections following instructions, guidelines and standards. (S1)</p> <p>Applies the pass/fail criteria for equipment and identifies common defects/failures demonstrating an understanding of causes and solutions. (K15, K18, S1)</p> <p>Plans task to ensure completion within the timeframe, provides reasoned rationale for sequence of work followed. Identifies and organises correct resources for task at the outset. (B9)</p> <p>Completes tasks in allocated time and in accordance with standard operating functions to industry standard and specification. (B5)</p> <p>Performs the appropriate test to verify lifting equipment is fit for purpose (eg light load test, proof load, function test). (K14, S24)</p> <p>Researches information to assist in the inspection using hard copy and digital formats, eg referring to LOLER, manufacturers' specifications and standards before carrying out inspection. (S10)</p>

<b>Tools and equipment</b> <b>S12</b>	Identifies, selects and uses tools and measuring devices required for the tasks in line with the manufactures' instructions. (S12)
<b>Service and repairs</b> <b>S3, S4, S6, S8, S9</b>	<p>Identifies manual machine and accessory components for repair, replacement or discard, correctly diagnosing faults and completes appropriate repair in line with the manufacturer's guidelines and industry standards. (S3, S4)</p> <p>Completes routine servicing and maintenance on selected items of lifting equipment in accordance with manufacturer's instructions, guidelines and industry standards. (S6, S9)</p> <p>Measures and assesses wear tolerances and deformation in line with manufacturer's instructions/guidance and industry standards. Uses this information to determine next steps. (S8)</p>
<b>Reports and documentation</b> <b>K16, K19, S11, S18, B8</b>	<p>Logs work using either manual or IT systems used in the workplace and completes report of Thorough Examination according to legislative requirements with reference to who to contact regarding defects and when to notify statutory bodies (K16, K19, S11, S18, B5)</p> <p>Communicates verbally and in writing in a way that is clear and can be understood by the audience, delivering their findings with conviction. Uses industry terminology appropriate to the occupation. (S18, B8)</p>

## Assessment method 2: Professional Discussion

KSBs	Pass – All pass criteria must be met	Distinction – All pass and all distinction criteria must be met
<p><b>Health and Safety</b> <b>S20, S21, S23, B1</b></p>	<p>Describes how they have developed a risk assessment and method statement to develop a safe system of work. (S20)</p> <p>Explains how they took account of customer safety when carrying out a task. (B1)</p> <p>Describes how they have identified toxic and hazardous substances and environments and applied control measures. (S21)</p> <p>Describes how they have controlled and managed spills. (S23)</p>	<p>Explains the implications of a poor health and safety culture and working practice. (S20)</p> <p>Explains how they have contributed to the improvements of procedures or processes with health and safety in mind. (B1)</p>
<p><b>Planning, Quality and Problem Solving</b> <b>K17, S2, S14, B6, B10</b></p>	<p>Describes how they balance the challenges of quality and efficiency showing an attention to detail. Describes how they approach problems to come to a timely solution. Describes how they have maintained focus when facing challenges. (S2, B6, K17)</p> <p>Describes when they have stayed motivated despite challenges and changes to work</p>	<p>Explains how they have monitored and evaluated their plans and made adjustments to them in order to optimise their time, while maintaining safety and performance. (K17, S2, B6, B10)</p>

	<p>instructions and how they achieved this. (B10)</p> <p>Describes how they have applied company quality control measures. (S14)</p>	
<p><b>Working with others</b> <b>K10, B2, B3</b></p>	<p>Describes when they have identified the importance and business benefits of treating others with fairness and respect and how their actions can reflect positively on their organisation. (K10)</p> <p>Describes how they have worked collaboratively with others and supported them, taking account of the impact of their own actions on them. Outline the impact their approach has had on the business. Describes how they respect others. (B2)</p> <p>Describes how they have been an ambassador for their company, meeting both company and customer expectations. Wears work attire according to company requirements. (B3)</p>	<p>Explains how their contribution to product/process/service improvement projects made a difference to the business. (B2)</p>
<p><b>Workshop operations</b> <b>K5, K7, S15</b></p>	<p>Describes the end-to-end process of the business with a knowledge of the documentation used</p>	<p>Describes how they have exceeded customer expectations. (K7)</p>

	<p>across the business. (K5)</p> <p>Describes when they have used their knowledge of lifting equipment to guide customers to make an appropriate selection of lifting equipment. (K7, S15)</p>	
<p><b>Manufacture/Assembly</b> <b>S7</b></p>	<p>Describes how they have manufactured/assembled steel wire rope sling in accordance with specification. (S7)</p>	
<p><b>Install, Repair, Replace</b> <b>K12, S5, S26, S27</b></p>	<p>Describes how they apply industry working practices when working to the manufacturer's specification, including pre-use checks, storage of equipment, assembly, maintenance and safe use of equipment. Explains how they follow the organisation's procedures when working on new and existing equipment. (S5, K12)</p> <p>Describes when and how they have correctly installed lifting equipment in accordance with manufacturer's specifications and industry working standards. (S26)</p>	<p>Explains how outcomes could be improved by changing working practices or organisational procedures. (S5)</p>

	Describes when they have marked lifting equipment in accordance with industrial standards. (S27)	
<b>Disposal</b> <b>K9, S22</b>	Describes how they have disposed of waste, including waste oils, cleaning fluids, batteries and tyres. (K9, S22)	Describes the impact on the environment and the business of not following company policy, industry standards and environmental regulations. (S22)
<b>Customer Service</b> <b>K6, B4</b>	Describes when to contact customers, the tone that should be adopted, how to appropriately time and follow up communication – both verbally and in writing, and how to adjust the approach to take account of customers'/clients' needs. (K6)  Describes how they provided honest and accurate advice to a customer and explains what they took into account when providing this. (B4)	Explains how they have managed a difficult conversation with a customer. Justifies their approach. (B4)
<b>Continuous Professional Development</b> <b>B7</b>	Describes how their feedback to others made a difference to the individual. (B7)  Describes the steps they have taken to aid their own professional development. (B7)	