

ST0252 Lift and Escalator Electromechanic
Level 3 Apprentice Standard
End-point-Assessment Plan

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1 INTRODUCTION

The Lift and Escalator Electromechanic Apprentice Standard is an integrated programme of knowledge and skills acquisition, developed alongside core behaviours expected of a competent Lift and Escalator Electromechanic. The award of the apprenticeship certificate will signify recognition of competence in the role. Apprentices will typically spend 36 - 42 months working towards the apprenticeship standard, followed by an end-point assessment completed within a 6 month window from the start of the collation of the project. Performance in the end-point assessment will determine the apprenticeship grade of fail, pass or distinction.

There are no pre-requisite entry requirements for this programme.

Prior to the end-point assessment, apprentices will undertake a structured period of on-programme training to develop the knowledge, skills and behaviours required of the standard.

End-point assessment (EPA) will be conducted by an End-Point Assessment Organisation (EPAO). EPAOs must be on the Register of End Point Assessment Organisations (RoEPAO) for this standard.

The gateway for the end-point assessment will be by employer assessment that the apprentice is ready for the end-point assessment.

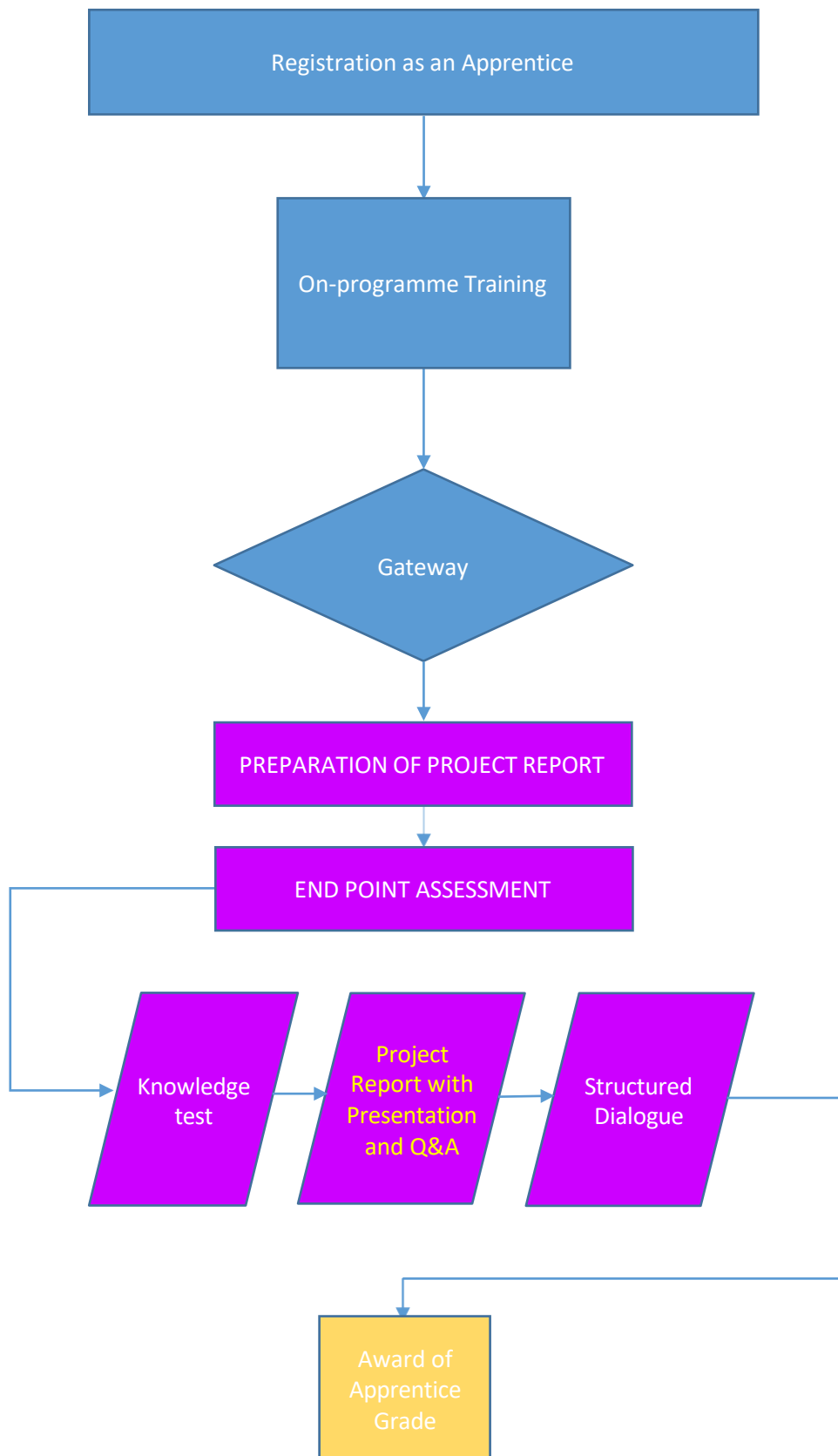
The end-point assessment consists of three distinct elements:

- **knowledge test** taken under controlled conditions,
- **project report with presentation and Q&A**, undertaken after completion of on-programme training and Gateway,
- **structured dialogue**, which is undertaken after the other end-point assessment components have been successfully completed.

To achieve final certification, the apprentice must have completed and achieved a minimum of a pass in each end-point assessment element. A pass in the end-point assessment will demonstrate that the apprentice can apply the knowledge, skills and behaviours required by the standard. Apprentices achieving a distinction will be demonstrating exceptional performance above the requirements of the standard.

See Figure 1 Summary of apprenticeship programme.

Figure 1 Summary of apprenticeship programme



On Programme Training

The apprentice will achieve a Level 3 QCF NVQ Diploma in Engineering Maintenance following an appropriate pathway in Lift or Escalator Servicing, Repair and Maintenance; or a Level 3 QCF NVQ Diploma in Installation and Commissioning, following an appropriate pathway in lifts, or escalators.

The apprentice will follow the Core and Options given in Appendix 1. Assessment will be undertaken on all Core elements and on the elements in one of the Options, chosen by the apprentice.

OPTIONS			
Option 1 – installation of traction and hydraulic lift systems	Option 2 – installation of escalator or moving walk systems	Option 3 – servicing, repair and maintenance of lift systems	Option 4 – servicing, repair and maintenance of escalators or moving walks

Before committing to the end-point assessment, the apprentice must complete the relevant Level 3 NVQ Diploma and have achieved English and maths qualifications in line with the apprenticeship funding rules .

Gateway

The employer will judge whether the apprentice is ready for the end-point assessment; they may wish to take advice from the training provider.

Prior to the Gateway and hence undertaking the end-point assessment, the apprentice must have completed training ensuring they can consistently demonstrate competence against all elements of the apprenticeship standard.

After the Gateway, the apprentice will also have to collate and complete a Project Report.

It is recommended that the apprentice keeps a file of evidence of qualifications should this be required at the End Point Assessment.

End Point Assessment

The employer will appoint the selected EPAO to undertake the End Point Assessment.

The End Point Assessment will consist of three elements:

- knowledge test
- project report with presentation and Q&A
- structured dialogue

2 KNOWLEDGE TEST

The knowledge test assesses the underpinning knowledge and understanding of the apprentice through 30 questions worth 1 point each. See the Assessment Matrix in Appendix 1.

The test will be administered by the EPAO using questions developed and maintained by the EPAO based on existing professional standards. The test must be undertaken under controlled conditions in the presence of an EPAO assessor, within a 90-minute time limit (but not necessarily undertaken as an online or computer-based test).

EPAOs must develop ‘practical 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 questions must be subject to question discrimination analysis to determine suitable difficulty and simplicity variation over the question set as a whole.

Question types will consist of Multiple Choice (1 answer from 4), Multiple Select (2 or 3 answers from 4 or 5), True or False answers and Calculation (Fill-in-the-Blank). Target question distribution are:

Question Type	Number of Questions
Multiple Choice	16
Multiple Select	7
True or False Answers	3
Calculation	4

The knowledge test score will be marked by the assessor; electronic marking is also permissible. Satisfactory completion of the knowledge test is required before the apprentice can progress to the Project Report with Q&A. An apprentice who fails the knowledge test may re-sit. See also Section 5.

3 PROJECT REPORT WITH Q&A

The apprentice will be required to prepare a project report on an element or elements of their own work following the gateway. They will also need to prepare a presentation based on their project for the second part of this assessment. The project must be work undertaken after, and separate from, completion of their on-programme training and must be agreed with the EPAO and employer.

The Project Report must be the apprentice’s own work, and should cover the knowledge, skills and behaviours identified in appendix 1.

The project report should describe a range of practical work carried out on lift, escalator or moving walk equipment, typically over 10 days duration (not including the time to write-up the report). The report must be written (3000 words +/- 10% tolerance) but can include illustrations or videos. While the project report structure and contents might vary according to the work undertaken, the report will need to include the elements described in the Assessment Matrix in Appendix 1 to demonstrate the higher-level attainment of knowledge, skills and behaviours specified in the standard.

Completed reports can be presented in hard copy or, ideally, as an electronic version or a combination of both, as applicable. Apprentices will send the project report to the assessor undertaking end point assessment at least three weeks before the date of the presentation, to allow the assessor time to assess the document. The independent assessor will note aspects of the work that they wish to discuss with the apprentice during the Q&A.

The presentation of the project and Q&A will ideally be completed immediately preceding the structured dialogue. The duration of the presentation will be 10 minutes (tolerance \pm 10%) with 20 minutes (tolerance +/- 10%) allowed for independent assessor questions and answers. This is an

essential element of the project to give the assessor the ability to verify the technical content of the project report, including validation that it is the work of the apprentice. The project content, the presentation and the Q&A will be graded. The Grading Table (Appendix 2) shall be used by the EPAO to determine the grade. The assessor will ask a minimum of 10 questions in order to establish the relevant areas of work have been assessed. At least one question shall cover each of the topics given in the minimum list in 2 below.

The apprentice should consider the following in planning their Project Report with Q&A:

1. Identify elements of work that would take around 10 days to complete¹. Once identified they should be agreed with the employer and the EPAO.
2. Prepare a report of the processes and activities involved, as a minimum, the report should cover the Knowledge, Skills and Behaviours in Appendix 1 focusing on the following:
 - identify any difficulties and how they were overcome
 - what safety and health controls were included
 - how safety and health issues were dealt with
 - what behaviours were required and what was done
 - how the delivery of the element was affected
 - requirements for teamwork

4 STRUCTURED DIALOGUE

There is an expectation that the Project report with presentation and Q&A and Structured Dialogue will take place on the same day. The Structured Dialogue with the Apprentice, is to ensure that the Apprentice has achieved the Knowledge, Skills and Behaviours in Appendix 1.

The structured dialogue with the apprentice shall take place under controlled conditions at a location agreed between the EPAO and the employer. The structured dialogue between the apprentice and the independent assessor will take 45 minutes (tolerance of $\pm 10\%$) with 16-19 questions covering the elements highlighted in Appendix 1. EPAOs must develop 'practical 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 structured dialogue shall cover both what the apprentice has done, the standard of their work, and also how they have done it. This enables the assessment to cover a broad range of skills, knowledge and behaviours, such as the apprentice's:

- approach to health and safety
- professionalism and work ethic
- workplace communication skills
- understanding of legislation affecting their work

The structured dialogue shall:

- confirm and validate judgements about the quality of work
- explore aspects and knowledge of work in more detail

A structured dialogue brief shall be developed by the EPAO for the independent assessor to support the discussion. This will ensure that consistent and reliable approaches are taken and that all key areas are appropriately explored.

¹ The duration is given as a guide only; apprentices may prepare their report on any project that has a wide range of content

5. GRADING AND ASSESSMENT

The marks for the three elements of end-point assessment (knowledge test, project report with Q&A, and the structured dialogue) will be combined to reach an overall grade See Appendix 2 for the Grading Table.

The assessor will arrive at a grading for the apprentice using the criteria in Appendix 2.

Overall Grade:

Pass – achieve a minimum of a pass in all 3 methods

Distinction – achieves a distinction in all 3 methods

Fail – fails to gain a pass in any of the assessment methods.

Where the pass criteria are not met the candidate is not yet ready to pass his or her apprenticeship; it may be possible to resit or retake at a later date, provided both the candidate and employer agree to that course of action and the timescales.

Procedure for re-sits and re-takes

An apprentice is required to pass the knowledge test before progressing to the remainder of the end-point assessment. An apprentice who fails the knowledge test may re-sit the test but their grade is limited to a pass.

Where the assessor indicates that the project with Q&A is not of adequate standard, to achieve a pass of the end-point assessment, the apprentice must undertake a new project, project report and presentation. The assessor should indicate the areas that need to be improved and agree with the employer on the title of a different topic for the report. In the case of a re-take, the grade for this element is limited to a pass.

An apprentice who fails the structured dialogue may re-take this element but their grade is then limited to a pass.

Where there are extenuating or mitigating circumstances, the apprentice may defer the assessment by giving reasonable notice before the assessment or in extenuating circumstances on the day of the assessment.

Apprentices who undertake a resit or retake will only be able to achieve a pass in their overall grade, unless there are exceptional circumstances accounting for the original fail which are beyond the control of the apprentice, as determined by their EPAO.

6 INTERNAL QUALITY ASSURANCE

Internal Quality Assurance (IQA) is carried out by EPAOs carrying out end-point assessment. EPAOs maintain quality assurance processes for inclusion on the Register of End-Point Assessment Organisations. The objective of IQA is to ensure that end point assessment is applied consistently between different assessors, different employers, and is consistent through time. Measures to meet this objective will include:

- utilising an assessor who has the following:
 - specific lift, escalator or moving walk industry experience gained in employment within the last 3 years or with industry experience and current knowledge evidenced by CPD
 - verifiable, relevant and sufficient technical competence to evaluate and judge performance and knowledge evidence requirements as set out in this assessment plan. This will be demonstrated either by holding a relevant technical qualification or by proven industrial experience (e.g. minimum of five years at a senior technical level)

of the technical areas to be assessed. The assessor's competence must, at the very least, be at the same level as that required of the learners in the units being assessed

- current evidence of continuing professional development in assessment principles
- ideally hold the same (or equivalent older) qualification as is being assessed and a relevant assessment qualification
- defining and applying consistent assessment methods for assessing the project report and presentation which recognise the diversity of project subjects
- defining and applying consistent assessment methods for conducting the structured dialogue which recognise the diversity of apprentices and project subjects
- procedures for re-sits, re-takes, appeals and complaints and for reviewing these
- moderation and verification of assessments made by different assessors. the processes for moderation should reflect the number and experience and expertise of the assessors on the panel e.g. an individual highly experienced assessor might need different moderation than a less experienced assessor, or a less experienced assessor could sit on a panel with one or more other assessors
- benchmarking assessment methods against best practice in other apprentice assessment organisations (both for assessing to this standard and other related sectors) to ensure assessment methods used deliver the required outcomes and are subject to continual improvement
- processes for standardising assessment practices across different assessors and employers including a requirement to meet at least annually after the initial set-up period with additional meetings in the initial period and if required as a result of either internal or external quality assurance requirements
- administration processes including secure recording and storage of all assessment decisions, and verification of achievement of apprenticeship certificate
- reporting to and cooperating with the measures for external quality assurance

7 EXTERNAL QUALITY ASSURANCE

External Quality Assurance (EQA) will be by The Institute for Apprenticeships and technical education EQA Service.

8 IMPLEMENTATION

Affordability

In developing this assessment approach with employers, we have consistently sought to keep the approach simple but effective, to use existing work-based training methods wherever possible and to avoid duplication or the need for adding additional burden into the assessment process.

This has led to a well-defined, cost-effective and deliverable process that employers will find easy to understand and apply to their own environment. Where additional support is required, the training provider can step in to offer their expertise.

Not more than 20% of the apprenticeship funding should go towards the end point assessment.

Volumes

After three years it would be expected that there will be 200-300 apprentices per year.

Appendix 1 Assessment Matrix

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Core Skills	Apply risk assessments and implement risk control measures.		X	
	Follow method statements in relation to specific work activities. Work responsibly in safety-critical environments.		X	
	Apply the principles, practices and operation of complex components making a lift or escalator system.			X
	Use tools, alignment equipment and measuring instrumentation such as installation techniques of chains with the designed termination methods		X	
	Apply the correct securing and fixing of components and lifting and handling methods		X	
	Operate complex electrical and electronic control systems such as programmable logic control systems, electrical and electronic relay systems, and electronic drive systems		X	
	Use tools, fault finding processes, computer software and measuring instrumentation such as multi-meters and electronic diagnostic tools.		X	
	Interpret electrical wiring diagrams.			X
	Use engineering drawings and documentation to meet current, regulations, standards and operating manuals.			X
	Apply the principles and practices of method statements and safe systems of working.		X	
	Apply the practices of planning, unloading and storage of materials.		X	

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Core Knowledge	Risk Assessment, method statements and manufacturer instructions in relation to either installation, or service and repair.			X
	Industry specific safety standards and legislation, such as working at height and electrical isolation methods in respect of one's own safety and of others.	X		
	Environmental recycling/disposal processes.	X		
	Operation of complex load bearing components making up a lift or escalator/ moving walk system.			X
	Each individual mechanical component, its location, function, correct operation and adjustment.			X
	How to analyse complex instructions from manufacturer manuals, layout, schematic and block diagrams.			X
	Incorrect operation, when and how to adjust for optimum/ safe performance at both complete unit and individual component level.		X	
	Pre-emptive evaluation methods such as; correct measurement analysis to replace components at risk of failure.		X	
	The correct principles of lifting, handling, hoisting and rigging methods to effectively manage loads.	X		
	Mechanical forces present and how to safely contain and secure them such as, torque requirements of fixings on ropes/ chains.	X		
	The use of tools and fixings, alignment equipment and measuring instrumentation.		X	

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
	The principles and operation of electrical, electronic and computer-based control systems.	X		
	Each individual electrical or electronic component, its location, function, correct operation and adjustment			X
Core Knowledge (cont)	The installation, adjustment and maintenance of complex wiring systems	X		
	How to correctly install, adjust and maintain control systems across a wide range of products, such as microprocessor systems, traditional relay/contact or analogue panels	X		
	Reading electrical wiring diagrams from differing eras, straight-line diagrams and modern International Electrotechnical Commission diagrams.	X		
	The use of electrical/ electronic tools, including computer software interrogation tools and apparatus, measuring instrumentation and systematic fault-finding processes.		X	
	Engineering layout drawings, documentation, regulations, standards and manuals to allow safe and effective coordination of site activities.		X	
	When and how to seek guidance where planning activities are beyond their individual scope of involvement.			X
	Planning, unloading and storage of materials, applying knowledge of manual handling and hoisting and rigging			X

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Behaviours	Health & Safety: Hazards and consequences of their working methods and environment; not only for themselves but colleagues and members of the public.			X
	Health & Safety: Working safely and understanding the effects of their acts or omissions on others. Developing a 'safety first' mentality		X	
	Judgement : When to seek advice and guidance if a problem is beyond their scope of knowledge and competence		X	
	Team Working :Treating others with dignity and respect.		X	
	Team Working : Different viewpoints and needs, actively listening and cooperating with others creating trust and team spirit.		X	
	Self-motivation : Self-development and progression.		X	
	Self-motivation: Making independent decisions concerning their work practices.		X	
	Self-motivation : Meeting goals and objectives with a positive approach, to their own needs		X	
	Communication Communicating positively with managers, clients and members of the public and contributing to team meetings.		X	
	Communication : Promoting two-way communication, actively listening, and seeking feedback to ensure communications is clear and understood			X
	Environment Eco-efficient values, respect of work place environment, others, property and their tools in the way they operate and work		X	
	Ethics : Working to company codes of practice for safe working and code of conduct.			X

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
	Ethics : A high ethical and professional standard, treating others with respect and honesty.			X
	Ethics : How to challenge any obviously unethical decisions or actions taken by others.			X
The apprentice must choose 1 from 4 Options listed below. Detail of each Option is given in the following table				
Option 1 – installation of traction and hydraulic lift systems	Option 2 – installation of escalator/ moving walk systems	Option 3 – servicing, repair and maintenance of lift systems	Option 4 – servicing, repair and maintenance of escalators/ moving walks	

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
	Options Skills			
Option 1 – installation of traction and hydraulic lift systems	Interpret schematic and block diagrams for hydraulic circuits and systems.			X
	Install and adjust hydraulic systems used on lifts for any duty range, from single nursing home applications through to heavy duty industrial goods applications			X
	Examine hydraulic components for precise operation and be able to identify incorrect operation formulating a corrective response be that adjustment or replacement.		X	
	Replace hydraulic components following the design criteria for the specific unit being worked upon.		X	
	Conduct specific operational tests associated with hydraulic technology.			X

	Install suspension systems to industry specification		X	
	Install traction machines to lift industry specification		X	
	Options Knowledge			
	The practices and legislation for the installation and testing of lift systems.	X		
	The general arrangement and builders work drawings related to lift installations.			X
	Measuring and setting out lift equipment such as; installing lift guide rails, lift buffer systems, lift counterweight assemblies, lift machines of varying types and lift control systems of varying types.		X	
	The roping systems used on lifts including, rope construction, and termination requirements.	X		
	Hydraulic equipment installation requirements including; pipework, hydraulic cylinders, pressure systems, and hydraulic tank systems.	X		

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Option 2 – installation of escalator/ moving walk systems	Options Skills			
	Install and set up escalator components including steps, pallets, handrails and chains and check the components for correct operation		X	
	Install and adjust mechanical and electrical systems used on units for all duty ranges, single shopping centre applications through to multiple heavy- duty public transport escalators.			X
	Examine escalator/ moving walk components for precise operation and be able to identify incorrect operation formulating a corrective response be that adjustment or replacement.		X	

	Replace mechanical, electrical and electronic components used on escalators following the design criteria for the specific unit being worked upon.		X	
	Conduct specific operational escalator tests associated with the technology			X
	Options Knowledge			
	The practices and legislation for the installation and testing of escalator systems.	X		
	General Arrangement/ Layout and builders work schematics, actions to be instigated to ensure a safe and efficient installation.			X
	The measuring and setting out processes for whole escalator installation and working to established tolerances for the specific unit being worked on.		X	
	Complex instructions and references for the installation ensuring that the site actions correctly align themselves to the requirements of the installation.	X		
	Complex software and microprocessor-based equipment that requires programming and adjustment to ensure optimum performance of the Components	X		

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Option 3 – servicing, repair and maintenance of lift systems	Options Skills			
	Carry out service and repair on lifts including, checking lift hydraulic systems, including pressure systems (accumulators) for correct operation and integrity, ensuring the lift ride quality is smooth.		X	
	Check lift positioning systems are setup such as incremental positioning systems, ultrasonic pulse systems and magnetic/ inductor systems, and that they are working to specification.			X

	Check, replace and setup lift door systems of varying types ensuring they operate to specification and be able to check and setup door closing pressures, and clearances.			X
	Correct installation of doors, ropes and belts.		X	
	Check lift travel requirements such as the correct set up of lift travel over- runs.		X	
	Options Knowledge			
	The practices and legislation for the servicing, repair and maintenance of lift systems.	X		
	Inspection of lift equipment		X	
	The use of lubricants, hydraulic fluids and cleaning materials.			X
	Fault diagnosis on lifts, location and rectification.		X	
	The maintenance requirements of roping systems on lifts including rope discard criteria, correct over-run requirements and rope termination requirements for lift installations.	X		
	Hydraulic principles and the movement of masses utilising fluids, pumps, valve blocks, pistons and pipework in relation to lift applications.	X		

	Area Assessed (from Standard)	Knowledge Test	Project Report with Q&A	Structured Dialogue
Option 4 – servicing, repair and mainten	Options Skills			
	Carry out service and repair on escalators including, ensuring the quality of the escalator travel is smooth and escalator positioning systems are setup, such as hand rail sensors, pallet/ step sensors, and that they are working to specification.		X	

ce of escalators/ moving walks	Check and set up safety systems such as safety comb plates, knurl guards, step sag switches, and photocell sensors ensuring they operate to specification.			X
	Maintain, setup and repair a variety of escalator/ moving walk electrical/ electronic control systems.			X
	Check/ adjust and repair tensioning systems used on escalators/ moving walks.		X	
	Options Knowledge			
	The practices and legislation for the servicing, repair and maintenance of escalator systems.	X		
	Inspection of escalator equipment including step/ pallet clearance and discard criteria.	X		
	The use of lubricants for escalator chains, and rollers			X
	Fault diagnosis on escalators, location and rectification.		X	
	The specific safe working practices on escalators, moving walks in relation to the working environment such as busy shopping centres, building sites, on existing and newly constructed buildings	X		

Appendix 2 Grading Table

Version 1.1

Appendix 2 Grading table

The descriptors below are intended to allow assessment organisations to develop detailed criteria using this as a guide.

	Fail	Pass	Distinction
Knowledge test (max 30 possible)	A score of 19 or fewer would indicate insufficient knowledge	A score of 20-25.	A score of 26 or greater.
Project report with Q&A	Fails to demonstrate all of the knowledge, skills and behaviours identified in Appendix 1. Fails to demonstrate specific knowledge, skills and behaviours from the apprentice's chosen option in Appendix 1.	Demonstrate all of the knowledge, skills and behaviours identified in Appendix 1. Demonstrates specific knowledge, skills and behaviours from the apprentice's chosen option in Appendix 1.	Achieves all of the pass criteria. Demonstrates specific knowledge, skills and behaviours from the apprentice's chosen option in Appendix 1.
	Fails to demonstrate adequate knowledge of understanding of risk assessments, method statements or implementing risk control measures and method statements.	Demonstrates knowledge and understanding of risk assessments, method statements and implementing risk control measures and method statements.	Demonstrates understanding of the reasons for risk assessments, method statements and implementing risk control and identifies the impact of non-compliance.
	Evidence of not working responsibly in safety-critical environments. Not developing a 'safety first' mentality.	Works responsibly in safety-critical environments. Develops a 'safety first' mentality.	Works responsibly in safety-critical environments. Demonstrates awareness of consequences of personal and corporate omissions.
	Fails to demonstrate an understanding of the effects of their actions or omissions on others or evidence of unsafe working.	Demonstrates an understanding of the effects of their actions or omissions on others.	As for a pass and, additionally demonstrates an understanding of the effects on omissions on project or company business.

	Fail	Pass	Distinction
	Fails to demonstrate adequate knowledge of fixing and securing of equipment, lifting and handling methods, or planning unloading and storage of materials.	Demonstrates knowledge of fixing and securing of equipment, lifting and handling methods and planning unloading and storage of materials.
Project report with presentation and Q&A (cont)	Fails to demonstrate adequate knowledge of the use of tools, alignment equipment and measuring instrumentation to complete work or as part of fault-finding or replacing failing components.	Demonstrates knowledge of the use of tools, alignment equipment and measuring instrumentation to complete work and as part of fault-finding or replacing failing components.	Explains knowledge of use of tools, alignment equipment and measuring instrumentation, and consequences of incorrect working.
	Fails to demonstrate adequate knowledge of electrical and electronic control systems and electronic tools and software to set-up/ adjust to achieve optimum/ safe performance, or to interrogate and diagnose incorrect operation.	Demonstrates knowledge of electrical and electronic control systems and electronic tools and software to set-up/ adjust to achieve optimum/ safe performance, and to interrogate and diagnose incorrect operation.	Explains knowledge and understanding of electrical and electronic control systems and electronic tools and software to set-up/ adjust to achieve optimum/ safe performance, and to interrogate and diagnose incorrect operation and consequences of incorrect working.
	Inadequate knowledge of drawings and documents for effective coordinate of site activities.	Demonstrates knowledge of engineering drawings, documents, manuals, standards and regulations to effectively coordinate site activities.	Demonstrates. understanding of different types of engineering drawings, and understanding and interpretation of standards etc.
	Fails to demonstrate judgement in seeking advice and guidance.	Demonstrates judgement in seeking advice and guidance if a problem is beyond their scope.	As for a pass and shows good judgement, in a stressful or difficult situation.
	Fails to demonstrate team working behaviours, not treating others with	Demonstrates team working skills: listening, cooperating, creating trust, treating other with dignity and respect.

	Fail	Pass	Distinction
	dignity and respect, not creating trust and team spirit.		
	Fails to demonstrate evidence of self-motivation, independent decisions, goals and objectives and self-development.	Demonstrates self-motivation: works towards goals, makes own decisions, looks to develop.	Demonstrates an understanding of their self-motivation, overcoming obstacles to achieve an objective.
	Fails to demonstrate communication behaviours with managers, clients and members of the public.	Demonstrates positive communication with managers, clients, members of the public, fellow team members.	Demonstrates evidence and understanding of communication skills and awareness of its purpose.
Project report with presentation and Q&A (cont)	Fails to demonstrate environmental values, evidence of poor environmental practices.	Demonstrates an awareness of the environment, respect for the workplace and surrounding environment, and those around them.	Demonstrates awareness and understanding the effects of their own and the wider populations actions on the environment.
Structured Dialogue	Fails to demonstrate all of the knowledge, skills and behaviours identified in Appendix 1. Fails to demonstrate specific knowledge, skills and behaviours from the apprentice’s chosen option in Appendix 1.	Demonstrates all of the knowledge, skills and behaviours identified in Appendix 1. Demonstrates specific knowledge, skills and behaviours from the apprentice’s chosen option in Appendix 1.
	Fails to demonstrate application of the principles, practices and operation of complex components.	Demonstrates application of the principles, practices and operation of complex components making a system, perhaps as evidenced by a successful integration of components.	Demonstrates understanding of the interfacing/ integration of components and can explain the consequences of incorrect application.
	Fails to interpret electrical wiring diagrams.	Demonstrates an understanding of electrical drawings, interprets drawings.	Demonstrates an understanding of electrical drawings and can explain the consequences

	Fail	Pass	Distinction
			of misinterpretation of electrical wiring diagrams.
	Fails to demonstrate adequate knowledge of electrical and electronic components.	Demonstrates knowledge and understanding of and the location, function, correct operation and adjustment of each individual electrical or electronic component.	Explains the function, operation and adjustment of electrical and electronic components and understands the impact of incorrect adjustment.
	Fails to show effective use of engineering drawings and documentation or evidence that these have not been used.	Demonstrates effective use of engineering drawings and documentation. Demonstrates ability to analyse complex instructions from manuals, drawings.	Demonstrates an understanding of engineering drawings and documentation and can explain the consequences of misinterpretation
	Fails to demonstrate adequate knowledge and understanding of risk assessments, method statements and manufacturer's instructions.	Demonstrates knowledge and understanding of risk assessments, method statements and manufacturer's instructions.	Can comment critically in identifying and mitigating against risk.
Structured Dialogue (cont)	Fails to demonstrate adequate knowledge and understanding of complex load-bearing components.	Demonstrates knowledge and understanding of complex load-bearing components and the location, function, correct operation and adjustment of each individual mechanical component
	Fails to demonstrate an awareness of when to seek guidance where activities are beyond their scope.	Demonstrates evidence or awareness of when to seek guidance where planning activities are beyond their scope.	Recognises own strength and weakness and limits to own competence.
	Fails to demonstrate adequate knowledge or application of knowledge of manual handling and hoisting and rigging.	Demonstrates knowledge of planning, unloading and storage of materials and applies knowledge of manual handling and hoisting and rigging.	Understanding of manual handling and hoisting and rigging knowledge with difficult or large equipment or difficult access. Can explain effect of incorrect handling

Appendix 2 Grading Table

Version 1.1

	Fail	Pass	Distinction
	Fails to demonstrate adequate awareness of hazards and consequences of their working methods.	Demonstrates awareness of hazards and consequences of their working methods and environment for themselves, colleagues and members of the public.	As for a pass and demonstrates understanding of identifying new or changed hazards or dealing with difficult or unusual hazards.
	Fails to demonstrate adequate communication skills.	Demonstrates two-way communication, active listening, and seeking feedback to ensure communication is clear and understood.	As for a pass and demonstrates communication skills in a difficult situation or achieving a difficult objective.
	Fails to demonstrate adequate working to codes of practice Does not demonstrate ethical behaviour.	Demonstrates working to company codes of practice and code of codes of conduct, demonstrates ethical and professional behaviour, treats others with respect and honesty, challenges obviously unethical decisions or actions taken by others.	As for a pass and demonstrates understanding of need to challenge others or taking a lead on a difficult issue.

Appendix 3 Summary of roles and responsibilities

	Role
Apprentice	Attends work and training, undertaking tasks set. Retains evidence, completes the End Point Assessment.
Employer	Provides the opportunities to learn and provide feedback so the apprentice can progress. Communicates with the training provider to ensure that the apprentice is on track and supports the apprentice with building their evidence. Provides pastoral care for the apprentice alongside the training provider. Decides when the apprentice is ready for the End Point Assessment.
Training Provider	Supports the employer and the apprentice to make sure that learning outcomes are achieved. Structures the programme of learning and provides it for the apprentice and their employer. Provides pastoral care for the apprentice and communicates with the employer regularly to make sure the apprentice is meeting their learning outcomes. Provides feedback to the apprentice and their employer on work undertaken and progress. Supports the apprentice with the building of their evidence for their NVQ portfolio.
Independent assessors	Administers the knowledge test, project report with presentation and Q&A and structured dialogue. Assess and grade the End-Point Assessments. Makes the decision whether the apprentice has passed their programme and awards the Pass or Distinction grade.

Appendix 4 Glossary

CPD	Continuing Professional Development
EPAO	End-Point Assessment Organisation
EQA	External Quality Assurance
ESFA	Education & Skills Funding Agency
IQA	Internal Quality Assurance
RoEPAO	Register of End-Point Assessment Organisations
IfA	Institute for Apprenticeships