



Level 3 Award in High Voltage Electrical Vehicle Rectification
610/0248/3

Assessment Guide

Assessment Principles

Introduction

This is an in-house development with a specific customer requirement and therefore the assessments will be developed in accordance with the centre delivery model.

Principles

There are four key principles to underpin assessment delivery:

1. Assessment should contribute to developing a learners' knowledge and/or skills and provide relevant and current development as the related industry requires.
2. Systems for capturing evidence of competence should be integrated and efficient. Assessment practices for both competence-based and knowledge-based aspects of qualifications should, where possible, be integrated with industry-driven standards and requirements.
3. Assessment methods must be appropriate for the level and nature of the qualification units to be assessed. Methods of assessing achievement against learning outcomes and assessment principles must be accommodating and flexible, whilst remaining appropriate for both the level being assessed and industry expectations of learners at that level.
4. Evidence of knowledge and understanding must be recorded and be clearly attributable to the learner. This can be delivered using task-based activity with questions and answer sessions, supported by assessor observation.

The choice and application of assessment methods will generally include:

- Direct Observation
- Written evidence (portfolio/workbook)
- Centre set assignment
- Centre set coursework
- Oral examination
- Professional/open discussion

Delivery Team Requirements

The delivery team experience, knowledge and qualifications will be determined by the centre in accordance with the specific delivery requirements of the qualification.

Assessment Materials

Assessment materials will be developed and owned by the centres and agreed with ETA prior to the commencement of the delivery of the qualification.

Resources available to be used for delivery

- Whiteboard for key points
- Tutor's resource box
- Handouts
- PowerPoint Presentation
- Laptop,
- laptop/projector
- Workshop Materials



Level 3 Unit – High Voltage Electric Vehicle Maintenance

Unit aim

This unit will inform learners of high voltage electric vehicle requirements, specifically the safety requirements for maintenance and rectification.

Unit introduction

This unit introduces learners to high voltage electric vehicle requirements, specifically the safety requirements when working on these vehicles and carrying out maintenance tasks and subsequent rectification.

Assessment

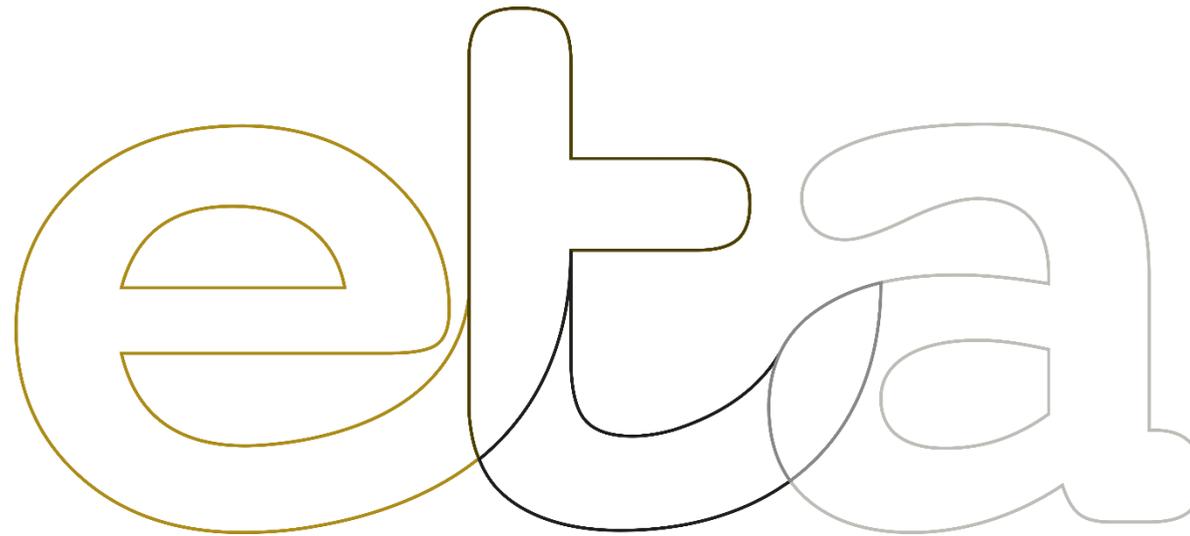
To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit, through a variety of assessment methods appropriate to the assessment environment and including a final test as appropriate.

Unit Reference Number		D/650/1079
Qualification Framework		RQF
Title		High Voltage Electric Vehicle Maintenance
Unit Level		3
Guided Learning Hours		20
Total Qualification Time		20
Unit Credit Value		2
Unit Grading Structure		Pass / Fail

	Learning Outcome		Assessment Criteria - The learner can	Criteria expansion
1	Understand high voltage electric vehicle components and operation systems	1.1	Describe the individual parts to make up the electrical drivetrain system	
		1.2	Define how battery cells are constructed and function	
		1.3	Explain how electric motors function	
		1.4	Describe the function of the high energy electrical components	Include: <ul style="list-style-type: none"> • Circuit protection • Cabling
		1.5	Explain the most appropriate way to identify components and high energy cabling	
		1.6	Indicate what might be considered alternative fuel vehicles	
2	Know how to identify the hazards applicable to high voltage electric vehicles	2.1	Explain what the hazards are that might be associated with high energy electricity	
		2.2	Indicate the applicable levels of voltage and current and explain why they present both alternating and direct current system hazards	

		2.3	Communicate any hazards present in a fire damaged electric vehicle	
		2.4	Explain what the effects on humans is of direct and alternating current	
		2.5	Identify and explain any hazards that might be associated with electrical vehicle charging	
3	Understand how the risks of working on high voltage electric vehicles can be reduced for yourself and others	3.1	Explain what methods might be used by manufacturers to protect from high energy electrical cabling and components	
		3.2	Describe the safety precaution applicable to carrying out maintenance activities to reduce the risks to others and self	
		3.3	Identify high voltage electric vehicle appropriate PPE	
		3.4	Identify any precautions that may need to be taken prior to working in the vicinity of high energy electrical components	
4	Understand how to safely prepare high voltage electric vehicles prior to carrying out routine maintenance	4.1	Explain how you might isolate the high energy electrical system to make it safe, to carry out necessary maintenance and repair	
		4.2	Identify and explain all appropriate methods of re-instatement of vehicles	
		4.3	Describe the use of any appropriate additional tools required to undertake work on high voltage electric vehicles	
		4.4	Demonstrate how you would connect the appropriate external power source to a high voltage electric vehicle	
		4.5	Explain why certain maintenance and repair requirements might not be related to high voltage components	
5	Demonstrate the ability to work safely on high voltage electric vehicles	5.1	Describe the appropriate PPE for high voltage electric vehicles and explain its use	
		5.2	Explain how you would extract applicable and suitable information from relevant sources to support your activity	
		5.3	Undertake the safe isolation of high energy electrical systems in accordance with any manufacturer's instructions	

		5.4	Undertake the safe re-instatement of the vehicle in accordance with any manufacturer's instructions	
		5.5	Describe how you would connect an alternative power source to a high voltage electric vehicle	



Level 3 Unit – High Voltage Electric Vehicle System Rectification

Unit aim

This unit will allow learners to demonstrate their knowledge of high voltage electric vehicle technology and rectification.

Unit introduction

Learners will be aware of the effect of high voltage electric vehicle technology has on other vehicle systems.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit, through a variety of assessment methods appropriate to the assessment environment and including a final test as appropriate.

Unit Reference Number		J/650/1080
Qualification Framework		RQF
Title		High Voltage Electric Vehicle System Rectification
Unit Level		3
Guided Learning Hours		20
Total Qualification Time		20
Unit Credit Value		2
Unit Grading Structure		Pass / Fail

	Learning Outcome		Assessment Criteria - The learner can	Criteria expansion
1	Know how to work on high voltage electric vehicles safely	1.1	Identify and demonstrate the appropriate PPE for undertaking activities	
		1.2	Undertake activities ensuring the risk of damage to people, property, vehicles and systems is minimised	
2	Understand the appropriate information required to undertake the task	2.1	Describe what might be suitable sources of technical information to underpin the rectification of high voltage electric vehicles	
		2.2	Demonstrate how to use the information to undertake the activities	
3	Know how to use the correct equipment and tools to undertake the activity	3.1	Identify and use the correct equipment to undertake rectification on high voltage electric vehicles	
		3.2	Explain why it is important to ensure the appropriate equipment is calibrated in accordance with the manufacturer's requirements	
4	Understand how to carry out the rectification on high energy electrical systems	4.1	Explain how you would remove and replace high energy electrical system components using the correct and applicable procedures	
		4.2	Demonstrate how you make the electrical system safe to work on	

		4.3	Demonstrate how you would isolate and then re-connect a live high energy electrical supply/battery	
		4.4	Explain the appropriate and correct procedure for removing and then refitting high energy electric vehicle system components	
		4.5	Describe the appropriate and correct procedure for reinstating the vehicle after confirming the repairs carried out	
		4.6	Demonstrate how you would correctly reset the vehicle systems following repair	
5	Know how to correctly record relevant information including making relevant recommendations	5.1	Identify the appropriate format and complete the records correctly	
		5.2	Communicate the appropriate recommendations following the relevant replacement inspections	