

## **Auto-Electrical & Mobile Electrical Installation** **(Assessment Requirements-Competency Units)**

### **Assessment Requirements**

#### **Unit G0102C – Demonstrating Competence in Health, Safety and Good Housekeeping in the Automotive Environment**

##### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of use of personal and vehicle protection, cleaning the work environment and disposal of waste on **3** separate **occasions**.
5. be observed by your assessor on at least **1** occasion carrying out the above.
6. produce evidence of identifying risks which may result from at least **2** of the items listed below:
  - the use and maintenance of machinery or equipment
  - the use of materials or substances
  - working practices which do not conform to laid down policies
  - unsafe behaviour
  - accidental breakages and spillages
  - environmental factors
7. be observed by your assessor on at least **1** occasion carrying out the above.
8. produce evidence of following at least **4** of the workplace policies listed below:
  - the use of safe working methods and equipment
  - the safe use of hazardous substances
  - smoking, eating, drinking and drugs
  - what to do in the event of an emergency
  - personal presentation
9. be observed by your assessor following workplace policies on at least **1** occasion

## Assessment Requirements

### Unit G3C – Demonstrating Competence in Support Skills for Job Roles in the Automotive Work Environment

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence that you have worked well with others in the automotive industry
5. be observed by your assessor on at least **3** occasions carrying out the above whilst performing your normal work duties.

## Assessment Requirements

### Unit G6C – Demonstrating Competence in Making Learning Possible through Demonstration and Instruction

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy **or** by a witness who has been previously agreed with the assessor prior to the observation taking place.
4. provide at least **1 record** of an activity which has been demonstrated.
5. provide records of at least **2 observations**, **1** of which **must be** by your assessor, which cover at least **1 demonstration** and **1 instruction or a combination of both**.

It is expected that the **records** must include evidence to show how you:

- decided on the sequence of the demonstration
- ensured that the demonstration was accurate and realistic
- identified which learning outcomes were achieved
- ensured a safe environment for the demonstration and allowed all learners to see the demonstration clearly

In preparing the records you should consider:

- which types of learning are best achieved and supported through demonstrations
- how to choose between instruction and demonstration as learning methods
- how to identify individual learning needs
- which factors are likely to prevent learning and how to overcome them
- how to choose and prepare appropriate materials, including technology based materials.
- which types of learning are best achieved through instruction
- how to make sure everybody acts in line with health, safety and environmental protection legislation and best practice

- how to analyse developments in learning and new ways of delivery, including technology based learning

It is also expected that evidence from your observations **will show** how you:

- structured the demonstration so that the learner got the most out of it
- encouraged learners to ask questions and get explanations at appropriate stages in the demonstration
- gave learners the opportunities to practice the skill being demonstrated
- gave learners positive feedback
- reinforced learning by repeating demonstration
- responded to the needs of learners during the demonstration
- reduced distractions and disruptions as much as possible
- matched instruction to the needs of learners
- ensured that the manner, level and speed of the instruction encourages learners to take part
- regularly check that learners understand and adapt instruction as appropriate
- gave learners positive feedback on the learning experience and the outcome achieved
- identified anything that prevented learning and reviewed this with the learner

## Assessment Requirements

### Unit G8C – Demonstrating Competence in Identifying and Agreeing Motor Vehicle Customer Service Needs

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence, including records, to show that you have dealt with **3 different customers**.
5. be observed by your assessor in your normal workplace dealing with **at least 1 customer**

## Assessment Requirements

### G37C – Demonstrating Competence in Supporting Customer Service Improvements in the Automotive Sector

#### General Requirements

##### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out with customers in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence, including records, to show that you have supported customer service improvements in the automotive sector on **3 different occasions**.
5. be observed by your assessor on **at least 1** occasion supporting customer service improvements within the automotive sector.

## Assessment Requirements

### Unit AE01C – Demonstrating Competency in Locating and Correcting Simple Electrical Faults

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of locating and correcting **simple** faults occurring in **7 out of the 11\*** engine systems listed, **at least 5** of which must come from work carried out **in your normal workplace**.
  - power storage devices
  - power generating devices
  - vehicle starting devices
  - vehicle lighting devices
  - wiring harness and connection devices
  - vehicle sensors and actuators
  - circuit protection devices
  - information and entertainment systems
  - telematic and tracking systems
  - security systems
  - communication systems
5. be observed by your assessor on **at least 2 occasions**, **each** observation covering the location and correction of the fault in **different** systems.

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in locating and correcting faults in all the systems.

Simulated activity **will be** acceptable to assess candidates' competence in location and correction on no more than **2** occasions.

## Assessment Requirements

### Unit AE02C – Demonstrating Competency in Enhancing Vehicle Electrical Systems

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence from your normal workplace of carrying out electrical enhancement from **4 different systems out of the 10 listed below** \*.
  - audio systems
  - visual systems
  - communication equipment
  - safety fitments
  - lamps
  - tow bars
  - reversing aids
  - navigation systems
  - alarm systems
  - immobilization system
5. be observed by your assessor on **at least 1 occasion** carrying out the electrical enhancement

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the types of electrical enhancements listed above.



## Assessment Requirements

### Unit AE03C – Demonstrating Competency in Overhauling Electrical Units

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of carrying out electrical overhauling activities from **4 different electrical units**, covering at least 2 of the areas listed below,. **At least 3** of which must come from work carried out **in your normal workplace**.
  - generators
  - starters
  - motors
  - actuators
5. be observed by your assessor on **at least 2 occasions** carrying out electrical overhauling activities

Simulated activity **will be** acceptable to assess candidates' competence in electrical overhauling on no more than **1** occasion.

## Assessment Requirements

### Unit AE04C – Demonstrating Competency in Diagnosis and Rectification of Engine Electrical Faults

#### General Requirements

You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of diagnosing and rectifying at least **1** fault from **each** system listed. The fault should involve a **2 or more** step diagnostic activity. **At least 3** of which must come from work carried out **in your normal workplace**.
  - starting systems
  - charging systems
  - engine management systems (including ignition and fuel)
  - electrical components of the cooling system
5. be observed by your assessor on **at least 2 occasions**, **each** observation covering the diagnosis and rectification of a fault in **different** systems. **Both** of these observations must be carried out **in your normal workplace**.

Simulated activity **will be** acceptable to assess candidates' competence in diagnosis and rectification on no more than **1** occasion.

## Assessment Requirements

### Unit AE05C – Demonstrating Competency in Diagnosis and Rectification of Transmission and Chassis Electrical Faults

#### General Requirements

You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of diagnosing and rectifying faults occurring in **3 out of the 9\*** systems listed, **at least 2** of which must come from work carried out **in your normal workplace**.
  - electronic clutch control system
  - electronic gearbox control system
  - electronic automatic gearbox control system
  - electric retarder system
  - electronically controlled slip differential system
  - electronic suspension control system
  - ABS and traction control system
  - electronic steering control systems
  - electronic stability control system
5. be observed by your assessor on **at least 1 occasion** carrying out the fault rectification

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of faults occurring in all the types of transmission and chassis systems.

Simulated activity **will be** acceptable to assess candidates' competence in diagnosis and rectification on no more than **1** occasion.

## Assessment Requirements

### Unit AE06C – Demonstrating Competency in Diagnosis and Rectification of Auxiliary Equipment Electrical Faults

#### General Requirements

You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of carrying out diagnosis and rectification activities from **4 different systems out of the 16 listed below \***. One of which must be alternator or a starter motor. The fault should involve a **2 or more** step diagnostic activity. **At least 3** pieces of evidence must come from work carried out **in your normal workplace**.
  - lighting systems
  - heated seats
  - electrically adjusted seats
  - heated screens
  - electric mirrors
  - electric sunroofs
  - electric windows
  - heating and ventilation systems
  - information and entertainment systems
  - communication systems
  - SRS
  - wash wipe
  - locking systems
  - security and warning systems
  - alternators
  - starter motors
5. be observed by your assessor on **at least 1 occasion**, covering the diagnosis and rectification of a fault.



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\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of faults occurring in all the types of electrical systems.

Simulated activity **will be** acceptable to assess candidates' competence in diagnosis and rectification on no more than **1** occasion.

## Assessment Requirements

### Unit AE07C – Demonstrating Competency in Fitting Auxiliary Locks and Security Devices (electrical & mechanical)

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of fitting auxiliary locks and security devices (electrical & mechanical) from **2 different systems out of the 6 listed below \***. **At least 1** pieces of evidence must come from work carried out **in your normal workplace**.
  - electronic and electro mechanical lock mechanisms
  - additional auxiliary mechanical door locks using cylinder type locks
  - additional auxiliary mechanical door and aperture locks using external locking systems
  - mechanical window protection devices (internal and external)
  - replacement security windows and window security films
  - pneumatic locking systems
5. be observed by your assessor on **at least 1 occasion** carrying out the electrical enhancement

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the types of auxiliary locks and security devices listed above.

Simulated activity **will be** acceptable to assess candidates' competence in diagnosis and rectification on no more than **1** occasion.

## Assessment Requirements

### Unit AE08C – Demonstrating Competency in Inspecting Vehicles Using Proscribed Methods

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence from your normal workplace of carrying out **3 different inspection** activities from the **4 listed below \***.
  - a. pre-work
  - b. installed system functional check
  - c. post-work
  - d. vehicle handover inspection
5. be observed by your assessor on **at least 2 occasions** one from each area

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the types of inspection activities listed above.

## Assessment Requirements

### Unit AE09C – Demonstrating Competency in Specifying and Installing Vehicle Electrical Enhancements and Electrical Security

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence from your normal workplace of carrying out **2 different enhancement** activities from the **6 listed below \*** and **1 security** activity from the **4 listed below \***.

#### Enhancements

- in car entertainment
- audio systems
- communication equipment
- networking systems
- body electrical systems
- data logging

#### Security

- alarm systems
- immobiliser systems
- location tracking systems
- electronic deadlocking systems

5. be observed by your assessor on **at least 2 occasions** one from each area





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\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the types of electrical enhancements/security listed above.

## Assessment Requirements

### Unit AE10C – Demonstrating Competency in Conducting Installation and System Consultations with Customers

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence from your normal workplace of carrying out **2 different** installation and system consultations with customers from the **5 listed below \***.
  - in car entertainment
  - audio systems
  - communication equipment
  - networking systems
  - body electrical systems
5. be observed by your assessor on **at least 1 occasion** carrying out a consultation with the customer

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the types of electrical installation and system consultations listed above.

## Assessment Requirements

### Unit BP18C – Competency in Removing and Fitting Basic Motor Mechanical, Electrical and Trim Components to Vehicles and Non-Permanently Fixed Vehicle Body Panels

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence from your normal workplace of removing and replacing **6 of the 12** units or components from the list below on at **least 2 occasions**.
  - bumpers
  - headlamp units
  - road wheels
  - batteries
  - bonnet fittings
  - interior trim components
  - exterior trim components
  - wings
  - doors
  - bonnets
  - boot lids and tailgates
  - bumper bars, covers and components
5. be observed by your assessor on **at least 2 occasions**, **each** observation covering the removal and replacement of **different** units.

Evidence from simulated activities is not acceptable for this unit.

## Assessment Requirements

### Unit LV03C – Competency in Removing and Replacing Motor Vehicle Electrical Units and Components

#### General Requirements

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk.
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy.
4. produce evidence of removing and replacing **at least 5** units or components, **each** from a **different** electrical system. At least **4** of these **5** pieces of evidence **must** come from work **in your normal workplace**.
5. be observed by your assessor on **at least 1 occasion in your normal workplace** carrying out the removal and replacement of at least **1** of the following\*:
  - engine starting
  - battery charging
6. be observed by your assessor on **at least 1 occasion in your normal workplace** successfully carrying out the removal and replacement of electrical units and components \*:
  - a. lighting
  - b. wiper
  - c. security and alarm
  - d. comfort and convenience
  - e. information and entertainment
  - f. telephone and two-way communication
  - g. electric window systems
  - h. monitoring and instrumentation systems

\*However, you must prove to your assessor that you have the necessary knowledge and understanding to be able to perform competently in respect of **all** the systems listed above.

Simulated activities **will be** acceptable to assess candidates' removal and replacement competence on no more than **1** occasion.