

## **Maintenance & Repair - Heavy Vehicle** **(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

### Unit HV01C – Demonstrating Competency in Routine Heavy Vehicle Maintenance

#### 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 servicing activities based on routine checks and inspections **at least 3 different vehicles** which **must** collectively cover the Learning Outcomes.
5. be observed by your assessor **in your normal workplace** carrying out servicing activities on **at least 1 occasion**.

## Assessment Requirements

### Unit HV02C – Demonstrating Competency in Removing and Replacing Heavy Vehicle Engine 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 1** unit or component from at least **4** of the **5\*** systems listed below. The evidence **must** come from work in **your normal workplace, not** including standard external filters
  - engine mechanical systems
  - cooling systems
  - air supply and exhaust systems
  - fuel systems
  - lubrication systems
5. be observed by your assessor on at least **1** occasion removing and replacing components or units.

\*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.

## Assessment Requirements

### Unit HV03C – Demonstrating Competency in Removing and Replacing Heavy 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 4\*** units or components, **each** from a **different** electrical system listed below. At least **3** of these **4** 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** of 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.





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

## Assessment Requirements

### Unit HV04C – Demonstrating Competency in Removing and Replacing Heavy Vehicle Chassis 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 **3 different units or components** in total which **must include items from** steering, suspension and braking systems. Your evidence must include demonstration of competence **in each** aspect of mechanical, electrical and hydraulic or pneumatic units.
5. be observed in your normal workplace on at least **1 occasion** removing and replacing units and components from one of the following systems:
  - steering
  - suspension
  - braking

## Assessment Requirements

### Unit HV05C – Demonstrating Competency in Inspecting Heavy Vehicles Using Prescribed 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 of carrying out **at least 2** different inspections from the following:
  - pre-delivery and pre-purchase
  - daily vehicle checks
  - pre and post rental inspections
5. be observed by your assessor **in your normal workplace** carrying out an inspection on **at least 1 occasion**.

Evidence from simulated activities is **not** acceptable for this unit.

## Assessment Requirements

### Unit HV06C – Demonstrating Competency in Inspecting Heavy Vehicles to Comply with Legal Requirements

#### 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 **at least 2** different inspections on **2 occasions each** from the following:
  - pre-MOT inspection
  - scheduled safety inspections (PMI)
  - post accident safety inspection
5. be observed by your assessor **in your normal workplace** carrying out an inspection on **at least 1 occasion**.

Evidence from simulated activities is **not** acceptable for this unit.

## Assessment Requirements

### Unit HV07C – Demonstrating Competency in Diagnosing and Rectifying Heavy Vehicle Engine 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 **4 out of the 7\*** engine systems listed, **at least 3** of which must come from work carried out **in your normal workplace**.
5. use a **2 or more** step diagnostic activity
  - engine mechanical components
  - cooling
  - fuel systems
  - engine management system
  - pressure charged induction systems
  - exhaust emission reduction systems
  - heating, and ventilation
6. 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**.

\*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 engine systems.

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

## Assessment Requirements

### Unit HV08C – Demonstrating Competency in Diagnosing and Rectifying Heavy Vehicle Chassis System 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 **3 faults**. At least **1** fault must be from **each** system listed. The fault should involve a **2 or more** step diagnostic activity. The **range** of evidence must include demonstration of competence in diagnosis and rectification in at least **1** of **each**: mechanical, electrical / electronic and hydraulic / pneumatic units or components. **At least 2** pieces of evidence must come from work carried out **in your normal workplace**.
  - Steering systems
  - Suspension systems
  - Braking systems
5. be observed by your assessor on **at least 1 occasion in your normal workplace**, covering the diagnosis and rectification of a fault.

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

## Assessment Requirements

### Unit HV11.1C – Demonstrating Competency in Overhauling Heavy Vehicle Engine 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 **overhauling 2 complete engine units** to include cylinder head and block
5. overhaul **1** of the above units **in your normal workplace.**
6. be observed by your assessor overhauling **1 unit.**

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

## Assessment Requirements

### Unit HV11.2C – Demonstrating Competency in Overhauling Heavy Vehicle Gearbox and Final Drive 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 overhauling **1 Gearbox and 1 Final Drive unit**
5. overhaul **1** of the above units **in your normal workplace.**
6. be observed by your assessor overhauling **1 unit.**

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



## Assessment Requirements

### Unit HV11.3C – Demonstrating Competency in Overhauling Heavy Vehicle Steering and Suspension 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 overhauling **1 steering and 1 suspension unit**
5. overhaul **1** of the above units **in your normal workplace.**
6. be observed by your assessor overhauling **at least 1 unit, which must be in your normal workplace.**

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

## Assessment Requirements

### Unit HV12C – Demonstrating Competency in Removing and Replacing Heavy Vehicle Driveline 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 **3 different units or components** in total which **must include items from** the list below:
  - clutch
  - gearbox
  - drive line (shafts, couplings, hubs and bearings)
  - final drive
5. be observed by your assessor **in your normal workplace** on at least **1 occasion**

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

## Assessment Requirements

### Unit HV13C – Demonstrating Competency in Diagnosing and Rectifying Heavy Vehicle Transmission and Driveline 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 **3** transmission and driveline faults. The faults must be from **2** of **the 4\*** systems listed below. The fault should involve a **2 or more** step diagnostic activity. **At least 2** pieces of evidence must come from work carried out **in your normal workplace**.
  - clutch
  - gearbox
  - drive line (shafts, couplings, hubs and bearings)
  - final drive
5. be observed by your assessor on **at least 1 occasion in your normal workplace** carrying out the diagnosis and rectification of a fault in a transmission or drive line system.

\*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 engine 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.